

# Gensler Revit Standards

This Revit Standards document is intended as a reference for Revit users to ensure the Revit project file and working methodology is aligned with Gensler best practices. **All use of Revit at Gensler must conform to this standard.**

This document will be updated frequently. Visit the Design and Delivery – Virtual Design and Construction area of the Gensler Intranet for the latest version.

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# Shared Base Standards

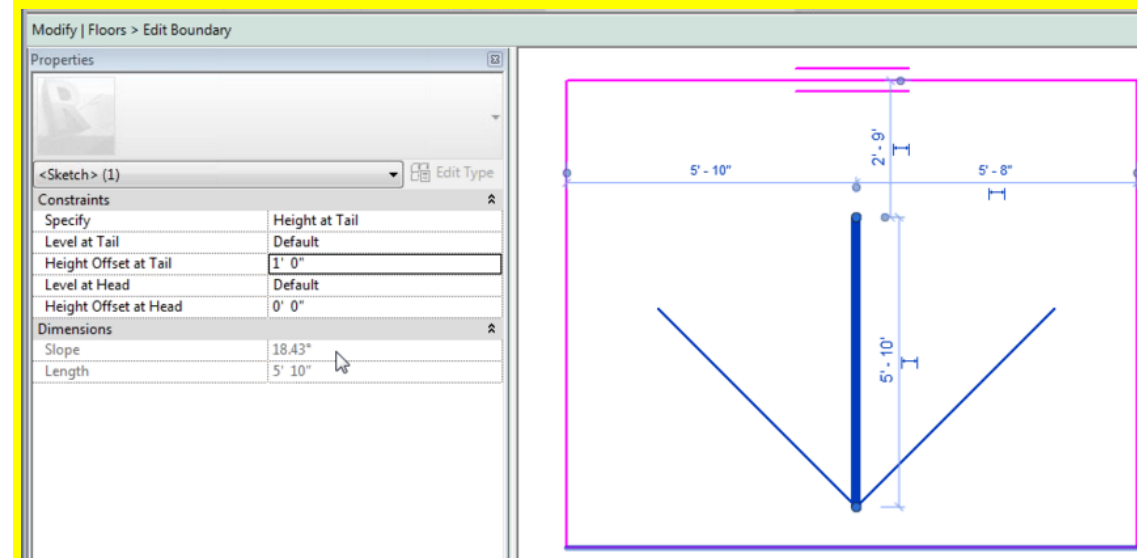
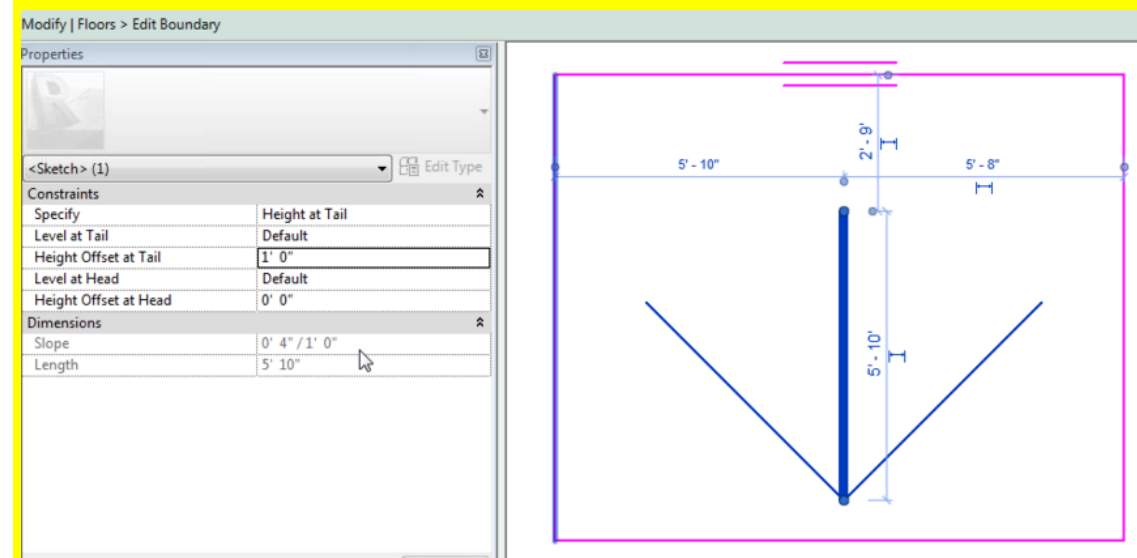
**Styles** — the settings that control the appearance of objects in the model (but are not objects themselves).

Project Units

Description

Project Units have limited effect, for example changing the format of a unit will change the format in which that unit displays in Temporary Dimensions, however the rounding chosen has no effect on Temporary Dimensions (which are preset to 1/256" 0.1mm / 0.001"). For permanent dimensions, all Gensler standard Dimension Styles explicitly set all units values (they do not use "Use Project Settings") so the settings in the Project Units dialog box do not impact Permanent Dimensions.

Question: default slope units decimal degrees or Rise / 1'-0" ???



Project Units	Metric	Imperial
<b>Length</b>		
Units Format	1234 mm	1'-5 85/256"
Units	Millimeters	Feet and fractional inches
Rounding	Rounding 0dp	to the nearest 1/256"
Units Symbol	mm	—
Suppress Trailing 0's	<input type="checkbox"/>	—
Suppress 0 feet	—	<input checked="" type="checkbox"/>
Show +	—	—
Use Digit Grouping	<input type="checkbox"/>	<input type="checkbox"/>
Suppress Spaces	—	<input type="checkbox"/>
<b>Area</b>		
Units Format	1234.57 m	1234.57 SF
Units	Square Meters	Square Feet
Rounding	Rounding 2dp	Rounding 2dp
Units Symbol	m <sup>2</sup>	SF
Suppress Trailing 0's	<input type="checkbox"/>	<input type="checkbox"/>
Suppress 0 feet	—	—
Show +	—	—
Use Digit Grouping	<input type="checkbox"/>	<input type="checkbox"/>
Suppress Spaces	—	—
<b>Volume</b>		
Units Format	1234.568 m	1234.57 CF
Units	Cubic Meters	Cubic Feet
Rounding	Rounding 2dp	Rounding 2dp
Units Symbol	m <sup>3</sup>	CF
Suppress Trailing 0's	<input type="checkbox"/>	<input type="checkbox"/>
Suppress 0 feet	—	—
Show +	—	—
Use Digit Grouping	<input type="checkbox"/>	<input type="checkbox"/>
Suppress Spaces	—	—
<b>Angle</b>		
Units Format	12.35°	
Units	Decimal Degrees	
Rounding	Rounding 2dp	
Units Symbol	°	
Suppress Trailing 0's	<input type="checkbox"/>	
Suppress 0 feet	—	
Show +	—	
Use Digit Grouping	<input type="checkbox"/>	
Suppress Spaces	—	
<b>Slope</b>		
Units Format	1235 / 1000	1'-5 5/16" / 1'-0"
Units	Rise / 1000mm	Rise / 1'-0"
Rounding	Rounding 3dp	to the nearest 1/16"
Units Symbol	—	—
Suppress Trailing 0's	<input type="checkbox"/>	—
Suppress 0 feet	—	<input checked="" type="checkbox"/>
Show +	—	—
Use Digit Grouping	<input type="checkbox"/>	<input type="checkbox"/>
Suppress Spaces	—	<input checked="" type="checkbox"/>
<b>Currency</b>		
Units Format	1234.57	
Units	—	
Rounding	Rounding 2dp	
Units Symbol	—	
Suppress Trailing 0's	<input type="checkbox"/>	
Suppress 0 feet	—	
Show +	—	
Use Digit Grouping	<input type="checkbox"/>	
Suppress Spaces	—	

Decimal symbol/digit grouping: 123,456,789.00

# Project Parameters and Shared Parameters

## Project Parameters and Shared Parameters

### Description

This section needs completing

There are three kinds of Parameter in Revit: Family, Project and Shared. This section deals only with Project Parameters and Shared Parameters. Please refer to the Style Guides for Family Parameter standards.

Project Parameters are defined in the Revit file have the scope of one Revit file only. At Gensler users should not need to add or change any settings in Project Parameters. Project Parameters are used for:

- internal Revit organization purposes (e.g. Browser Organization)

Shared Parameters are defined externally to the Revit file (in a text file) which allows them to be added to multiple Revit projects or families (.rvt and .rfa). They are necessary:

- to create a schedule that includes more than one Revit category (a multi-category schedule)

Project Parameters	Scope	Discipline	Type	Categories
<b>Identity Data</b>				
PROJECT INFO – Template Version	Instance	Common	Text	Project Information
SHEETS – Discipline	Instance	Common	Text	Sheets
SHEETS – Position Index	Instance	Common	Text	Sheets
SHEETS – Use	Instance	Common	Text	Sheets
VIEWS – Use	Instance	Common	Text	Views

Shared Parameters	Discipline	Type
<b>Bilingual</b>		
BILINGUAL – Approved By	Common	Text
BILINGUAL – Area Name	Common	Text
BILINGUAL – Checked By	Common	Text
BILINGUAL – Client Name	Common	Text
BILINGUAL – Designed By	Common	Text
BILINGUAL – Discipline	Common	Text
BILINGUAL – Drawn By	Common	Text
BILINGUAL – Project Address	Common	Text
BILINGUAL – Project Name	Common	Text
BILINGUAL – Project Status	Common	Text
BILINGUAL – Room Name	Common	Text
BILINGUAL – Sheet Name	Common	Text
BILINGUAL – View Name	Common	Text
<b>Doors</b>		
DOORS – Hardware Set	Common	Text
<b>Rooms and Areas</b>		
ROOMS AND AREAS – Calculated Occupancy	Common	Text
ROOMS AND AREAS – IBC Area Occupancy	Common	Text
ROOMS AND AREAS – Floor Area Per Occupant	Common	Area

Can one SP be used to populate a multi-line address block or do we need to break out BILINGUAL – Project Address Into Address Line 1, Address Line 2, Address Line 3?

## Line Weight Pen Table

### Description

The criterion for the Pen Table is a well differentiated set of pens that adjust appropriately as scale changes. When representing modeled objects, the weight of a particular line is determined by the pen assigned to its category in the Object Styles table and the scale of view. Therefore line weights as plotted are controlled by a combination of the Object Styles table and the Line Weight Pen table.

There are three Line Weight Pen tables in every model:

- **Model Line Weights:** affects model objects, Detail Components and Model Lines shown in Views. Note: Drafting Lines also use pen weights from the Model Line Weights table.
- **Annotation Line Weights:** annotation objects, such as section lines, dimension lines, grid lines, etc
- **Perspective Line Weights:** line weights in perspective views

Each Revit Pen Table has exactly 16 pens (no more, no less). In the Model Line Weights table each pen has a line weight setting at a variety of scales. The weight for a line is the setting for its assigned pen at the drawing's scale (or the lower scale). The Annotation and Perspective Line Weights tables have one weight per pen only (they are not scale dependant).

### Key Issues

It is important that we have only one pen table for the firm. For example if a detail is inserted into a file with a differing pen table, the detail's line weight will switch resulting in significant clean up time.

Each line weight in the pen table is derived by multiplying the previous number by the square root of 2. This is done so that the weights in a half size set plotted by a 50% reduction factor method will exactly match a half size set plotted by changing its scale setting to half the original size. This also means all line weights in a set get thicker or thinner proportionally, so if a 30x48 A0 sheet is plotted on 24x30 A2, visual proportions are maintained.

Each major scale commonly used has an explicit column defining the line weight. This is done for user clarity, even though it is technically not necessary.

### Model Line Weights (inch and mm)

	6"=1'-0"	3"=1'-0"	1 1/2 =1'-0"	3/4 =1'-0"	1/2 =1'-0"	1/4 =1'-0"	1/8 =1'-0"	1/16 =1'-0"	1/32 =1'-0"	1/64 =1'-0"
1	0.0098	0.0071	0.0071	0.0051	0.0051	0.0035	0.0035	0.0026	0.0026	0.0018
2	0.0138	0.0098	0.0098	0.0071	0.0071	0.0051	0.0051	0.0035	0.0035	0.0026
3	0.0197	0.0138	0.0138	0.0098	0.0098	0.0071	0.0071	0.0051	0.0051	0.0035
4	0.0276	0.0197	0.0197	0.0138	0.0138	0.0098	0.0098	0.0071	0.0071	0.0051
5	0.0394	0.0276	0.0276	0.0197	0.0197	0.0138	0.0138	0.0098	0.0098	0.0071
6	0.0551	0.0394	0.0394	0.0276	0.0276	0.0197	0.0197	0.0138	0.0138	0.0098
7	0.0787	0.0551	0.0551	0.0394	0.0394	0.0276	0.0276	0.0197	0.0197	0.0138
8	0.1102	0.0787	0.0787	0.0551	0.0551	0.0394	0.0394	0.0276	0.0276	0.0197
9	0.1575	0.1102	0.1102	0.0787	0.0787	0.0551	0.0551	0.0394	0.0394	0.0276
10	0.2205	0.1575	0.1575	0.1102	0.1102	0.0787	0.0787	0.0551	0.0551	0.0394
11	0.3150	0.2205	0.2205	0.1575	0.1575	0.1102	0.1102	0.0787	0.0787	0.0551
12	0.4409	0.3150	0.3150	0.2205	0.2205	0.1575	0.1575	0.1102	0.1102	0.0787
13	0.6299	0.4409	0.4409	0.3150	0.3150	0.2205	0.2205	0.1575	0.1575	0.1102
14	0.8819	0.6299	0.6299	0.4409	0.4409	0.3150	0.3150	0.2205	0.2205	0.1575
15	1.2471	0.8819	0.8819	0.6299	0.6299	0.4409	0.4409	0.3150	0.3150	0.2205
16	1.7638	1.2471	1.2471	0.8819	0.8819	0.6299	0.6299	0.4409	0.4409	0.3150

	1 : 2	1 : 5	1 : 10	1 : 15	1 : 20	1 : 50	1 : 100	1 : 200	1 : 500	1 : 1000
1	0.2500	0.1800	0.1800	0.1300	0.1300	0.0900	0.0900	0.0650	0.0650	0.0460
2	0.3500	0.2500	0.2500	0.1800	0.1800	0.1300	0.1300	0.0900	0.0900	0.0650
3	0.5000	0.3500	0.3500	0.2500	0.2500	0.1800	0.1800	0.1300	0.1300	0.0900
4	0.7000	0.5000	0.5000	0.3500	0.3500	0.2500	0.2500	0.1800	0.1800	0.1300
5	1.0000	0.7000	0.7000	0.5000	0.5000	0.3500	0.3500	0.2500	0.2500	0.1800
6	1.4000	1.0000	1.0000	0.7000	0.7000	0.5000	0.5000	0.3500	0.3500	0.2500
7	2.0000	1.4000	1.4000	1.0000	1.0000	0.7000	0.7000	0.5000	0.5000	0.3500
8	2.8000	2.0000	2.0000	1.4000	1.4000	1.0000	1.0000	0.7000	0.7000	0.5000
9	4.0000	2.8000	2.8000	2.0000	2.0000	1.4000	1.4000	1.0000	1.0000	0.7000
10	5.6000	4.0000	4.0000	2.8000	2.8000	2.0000	2.0000	1.4000	1.4000	1.0000
11	8.0000	5.6000	5.6000	4.0000	4.0000	2.8000	2.8000	2.0000	2.0000	1.4000
12	11.2000	8.0000	8.0000	5.6000	5.6000	4.0000	4.0000	2.8000	2.8000	2.0000
13	16.0000	11.2000	11.2000	8.0000	8.0000	5.6000	5.6000	4.0000	4.0000	2.8000
14	22.4000	16.0000	16.0000	11.2000	11.2000	8.0000	8.0000	5.6000	5.6000	4.0000
15	31.7000	22.4000	22.4000	16.0000	16.0000	11.2000	11.2000	8.0000	8.0000	5.6000
16	44.8000	31.7000	31.7000	22.4000	22.4000	16.0000	16.0000	11.2000	11.2000	8.0000

### Perspective and Annotation Line Weights (inch and mm)

Annotation/Perspective	(inch)	Annotation/Perspective	(mm)
1	0.0026"	1	0.0650 mm
2	0.0035"	2	0.0900 mm
3	0.0051"	3	0.1300 mm
4	0.0071"	4	0.1800 mm
5	0.0098"	5	0.2500 mm
6	0.0138"	6	0.3500 mm
7	0.0197"	7	0.5000 mm
8	0.0276"	8	0.7000 mm
9	0.0394"	9	1.0000 mm
10	0.0551"	10	1.4000 mm
11	0.0787"	11	2.0000 mm
12	0.1102"	12	2.8000 mm
13	0.1575"	13	4.0000 mm
14	0.2205"	14	5.6000 mm
15	0.3150"	15	8.0000 mm
16	0.4409"	16	11.2000 mm

## Line Patterns

### Description

Line Patterns define line dash and dot sequences. Only dots and dashes along a single line can be included (no symbols or characters). Line Patterns are scale independent: the patterns are defined in resulting print sizes and will always print at the same size, regardless of view scale.

Line Patterns are applied directly to Revit standards tables, i.e. they are a direct property of Object Styles (Model and Annotation), Phase Overrides, Dimension Styles, Line Styles and certain system Families (e.g. Grid). Restated: standards tables in Revit reference the Line Pattern table directly; they do not reference Line Styles.

Line Patterns defined in both Families and Detail Components appear in the Revit model's Line Pattern table. Families and Detail Components are drawn using styles defined in the relevant category of the Objects Styles table. When the imported component uses a style with the same name as one already defined in the model, the style in the model remains and imported objects change to match. When the imported object has a style name that is not already in the model, that style is added to the model.

### Key Issues

The Line Pattern table supplied in the Gensler templates has only patterns named for common use cases. If additional patterns are required they should be created by the user. All patterns should be created (and named) for specific uses in the model. For example there should not be a pattern called “Dash”, but there could be a pattern called “Edge of Slab”.

**Gensler Standard Line Patterns Table**

Name	Imperial	Metric	Notes
* Accessible Route	Dot 1/4	Dot 7	Use wide pen for large dots
* Callout Boundary	1/4 1/8		For annotation callout areas
* Centerline	5/8 3/16 3/16 3/16	16 5 5 5	
* Centerline (small)	3/32 1/16 1/16 1/16	2.5 1.5 1.5 1.5	
* Clearance	3/32 1/16 1/16 1/16	2.5 1.5 1.5 1.5	
* Contour - primary	solid	solid	
* Contour - secondary	1/32 1/32	0.8 0.8	
* Demolished	3/32 1/16	2.5 1.5	
* Flashing	Awaiting definition		
* Grid	5/8 3/16 3/16 3/16	16 5 5 5	Same as centerline
* Hidden (below, behind, beyond)	1/16 1/32	1.5 0.8	
* Layout Line (construction line)	1/8 1/8	3 3	
* Match Line	2" 1/16 1/16 1/16 1/16 1/16 1/16	50 1.5 1.5 1.5 1.5 1.5	
* Membrane	Awaiting definition		
* Egress †	1/8 1/8	3 3	
* Overhead (above)	1/8 1/16	3 1.5	
* Property Line	5/8 3/16 1/4 3/16 1/4 3/16	16 5 7 5 7 5	
* Rebar	1/16 1/16	1.5 1.5	
* Scheduled Items	1/8 1/8	3 3	
* Structural Members	3/16 3/16	5 5	
* Swings (in elevation)	1/8 1/8	3 3	
* Temporary Construction	3/16 1/8	5 3	

† This pattern is not included in the base template; it occurs in the specific families and is imported into the project when the family is imported.

## Line Styles

### Description

Line Styles allow a name to be given to the combination of Line Weight, Line Color and Line Pattern. Line Styles are used only the following very limited cases:

- Line Styles are available for use by Model Lines and Drafting Lines in a project file (not in families).
- Line Styles are also used by the system to represent certain conditions in drawings, including <Sketch>, <Area Boundary>, <Room Separation> and <Space Separation>.
- Very rarely, they are used to override the graphics of edges (however this is confusing to team members so needs to be used only in very specific circumstances).

Use of Model Lines and Drafting Lines (which can't be keynoted) is considered bad practice in CDs, so in a well created CD model, Line Styles are almost never used. However Model Lines and Drafting Lines are useful in early design stage models where Revit can be used effectively for diagrams and presentations.

### Key Issues

It is important to maintain consistency across the firm because if a Revit element which uses a named Line Style is transferred from one Revit file to another, it will take on the properties of the same named Line Style in the destination file. If an element (Model Line or Drafting Line) is imported into a Revit model which uses a Line Style that is not defined in the target model, that Line Style will be automatically created.

There are many styles created by Autodesk that cannot be removed. These are shown with a shaded background in the Line Styles table to the right. <Hidden>, <Overhead> and <Centerline> should be used by staff when drawing. The others should not.

The standards provide 7 pens for general drafting (“# 01” etc), one for indicating clearance requirements on plans, and one style for Layout lines in the drawing. All other styles should be created by staff as required, named for their use (not by their graphic properties).

### Gensler Standard Line Styles Table

Category	Line Weight	Line Color	Line Pattern
Lines	1	Black	Solid
# 01	1	Black	Solid
# 02	2	Black	Solid
# 03	3	Black	Solid
# 04	4	Black	Solid
# 05	5	Black	Solid
# 06	6	Black	Solid
# 07	7	Black	Solid
* Clearance <sup>[1]</sup>	1	Black	* Clearance
* Layout Line (construction line)	1	RGB 175-075-000	* Layout Line (construction line)
<Area Boundary> <sup>[2]</sup>	4	RGB 255-175-000	Solid
<Beyond>	1	Black	* Hidden (below, behind, beyond)
<Centerline>	1	Black	* Centerline
<Demolished>	1	Black	* Demolished
<Hidden>	1	Black	* Hidden (below, behind, beyond)
<Overhead>	1	Black	* Overhead (above)
<Room Separation>	2	RGB 175-075-000	Solid
<Sketch>	3	Magenta	Solid
<Space Separation> <sup>[3]</sup>	3	Yellow	Solid
Axis of Rotation	6	Black	* Centerline (small)
Hidden Lines	1	Black	Solid
Insulation Batting Lines	1	Black	Solid
Lines	1	Black	Solid
Medium Lines	4	Black	Solid
Thin Lines	2	Black	Solid
Wide Lines	6	Black	Solid

Rows highlighted in blue are created by Autodesk and cannot be removed.

<sup>[1]</sup> Clearance is used to indicate wheelchair turning radius, required clearance in front of basins, urinals etc. and clearances required to access equipment for maintenance etc.

<sup>[2]</sup> Area Boundary lines are created within the Area Analysis tools in Revit for the use Revit's Area Plans.

<sup>[3]</sup> Space Separation lines divide spaces for the purpose of MEP analysis (in the Revit MEP product). These are unlikely to show in an architectural model.



## Arrowheads

### Description

Arrowheads are implemented as a System Family. There are a limited set of “arrow” kinds (Diagonal, Arrow, Heavy end tick mark, Dot, Elevation Level, Datum triangle, Box), however each of the kinds can be configured, and these configurations are then saved as Types of System Family : Arrowhead.

### Key Issues

Gensler uses only three types of arrowhead:

- **\* Diagonal:** a diagonal tick indicating the extents of something, e.g. the ends of a linear dimension
- **\* Dot:** a dot indicating that a specific point is referenced, e.g. a spot elevation or spot coordinate
- **\* Arrow:** an arrow indicating something being pointed to, e.g. for leaders

Arrowheads	* Arrow	* Diagonal	* Dot
Graphics			
Arrow Style	Arrow	Diagonal	Dot
Fill Tick	<input checked="" type="checkbox"/>	—	<input checked="" type="checkbox"/>
Arrow Width Angle	25.000°	—	—
Tick Size	1/16" 1.5mm	1/16" 1.5mm	1/16" 1.5mm
Heavy End Pen Weight	—	—	—

## Object Styles

### Description

The Object Styles table specifies the default project-wide Revit settings for Objects by category and sub-category: Line Weight (Projection, Cut), Line Color, Line Pattern, Material.

Many settings in Revit affect the visual styles of views in the drawing set. Elements of the visual styles are configured in different parts of the program, and are applied to specific views in a particular order to generate the resulting line work. Elements of the visual style, in the order they are applied, are:

- **Object Styles:** default project wide graphical settings configured in the Object Styles table
- **Visibility/Graphic Overrides:** view specific graphical settings configured in the Visibility/Graphic (VG) table
- **Phase Filters:** named Phase Filters can be applied to a view to turn off or override the graphics of objects in the view based on whether they are existing, demolished, new or temporary in the view.
- **Visibility/Graphic Filters:** view specific, object parameter specific graphical settings configured in the Visibility/Graphic (VG) table, used to differentiate aspects within one category (the fire ratings of walls).

Object Styles, therefore, form the basic graphical settings from which specific view settings are derived.

### Key Issues

Generally pens the Projection column (including Hidden Lines) are set to pen 1, except the major architectural elements (walls, floors/foundations, roofs, doors and windows) which are pen 2. Cuts are generally 2 pens more than corresponding Projections. Sub-categories specifically relating to glass are pen 1 for projection and cut.

Note: Sub-categories for line work (including Hidden Lines) cannot be cut, therefore the Cut column is irrelevant for these rows. Also Common Edges and Interior Edges are only seen in cut (not in Projection).

Non-physical elements which do not appear on printed sheets (reference lines, analytical model etc) are generally colored, and often use wider lines to counterbalance their low saturation compared to black.

Baby blue is defined as the "Selection" color so we now can't use that color for reference lines (or you can't see if a reference line is selected). Changing the Revit defaults is not practical because of the machine specific way this is saved. For this reason, we have used red/orange for abstract reference lines (centerlines, grids, reference lines and points etc) and for analytical representations (structural load paths, boundary conditions etc) and green for architectural reference elements (ADA clearances, shaft openings etc) and SMEPF reference lines. Purple is used for Revit visual objects (scope boxes etc).

### Model Components

Category	Line Weight		Line Color	Line Pattern	Material
	Proj	Cut			
Air Terminals	1		Black	Solid	
Cable Tray Fittings	1		Black	Solid	
Center Line	1		RGB 175-075-000	* Centerline	
Cable Trays	1		Black	Solid	
Center Line	1		RGB 175-075-000	* Centerline	
Drop [3]	1		RGB 000-127-000	Solid	
Rise [3]	1		RGB 000-127-000	Solid	
Casework	1	3	Black	Solid	
Elevation Swing	1	1 †		* Swings (in elevation)	
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Ceilings	2	2	Black	Solid	
Common Edges [2]	1 †	2			
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Columns	2	4	Black	Solid	
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Communication Devices	1		Black	Solid	
Conduit Fittings	1		Black	Solid	
Center Line	1		RGB 175-075-000	* Centerline	
Conduits	1		Black	Solid	
Center Line	1		RGB 175-075-000	* Centerline	
Drop [3]	1		RGB 000-127-000	Solid	
Rise [3]	1		RGB 000-127-000	Solid	
Curtain Panels	1	2	Black	Solid	
Glass	1	1			Glass
Glass Cut	1 †	1			Glass
Glass Projection	1	1 †			Glass
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Panel	2	3			
Panel Cut	3 †	3			
Panel Projection	2	2 †			
Curtain Systems	2	1 †	RGB 000-127-000	Solid	
Hidden Lines	2 †	1 †	RGB 000-127-000	* Hidden (below, behind, beyond)	
Curtain Wall Mullions	1	3	Black	Solid	
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Data Devices	1		Black	Solid	
Detail Items	1		Black	Solid	
# 01	1		Black	Solid	
# 02	2		Black	Solid	
# 03	3		Black	Solid	
# 04	4		Black	Solid	
# 05	5		Black	Solid	
# 06	6		Black	Solid	
# 07	7		Black	Solid	
Hidden Lines	1		Black	* Hidden (below, behind, beyond)	
Doors	2	2	Black	Solid	
Elevation Swing	1	1 †		* Swings (in elevation)	
Frame/Mullion	2	3			
Glass	1	1			Glass
Hidden Lines	2	1 †		* Hidden (below, behind, beyond)	
Opening	2	3	Black	Solid	
Panel	2	3			
Plan Swing	1	1 †			
Duct Accessories	1		Black	Solid	
Duct Fittings	1		Black	Solid	
Center Line	1		RGB 175-075-000	* Centerline	
Duct Insulations	1		Black	Solid	
Duct Linings	1		Black	Solid	
Duct Placeholders	1		RGB 000-127-000	Solid	

Ducts	1		Black	Solid	
Center Line	1		RGB 175-075-000	* Centerline	
Drop [3]	1		RGB 000-127-000	Solid	
Rise [3]	1		RGB 000-127-000	Solid	
Electrical Equipment	1		Black	Solid	
Hidden Lines	1 †			* Hidden (below, behind, beyond)	
Electrical Fixtures	1		Black	Solid	
Hidden Lines	1 †			* Hidden (below, behind, beyond)	
Entourage	1		Black	Solid	
Hidden Lines	1 †			* Hidden (below, behind, beyond)	
Fire Alarm Devices	1		Black	Solid	
Flex Ducts	1		Black	Solid	
Center Line	1		RGB 175-075-000	* Centerline	
Insulation	1				
Pattern	1		RGB 000-127-000		
Flex Pipes	1		Black	Solid	
Center Line	1		RGB 175-075-000	* Centerline	
Insulation	1				
Pattern	1		RGB 000-127-000		
Floors	2	5	Black	Solid	
Common Edges [2]	2 †	2			
Hidden Lines	2	1 †		* Hidden (below, behind, beyond)	
Interior Edges [2]	1 †	1			
Slab Edges	2	5			
Furniture	1		Black	Solid	
Hidden Lines	1			* Hidden (below, behind, beyond)	
Overhead Lines	1			* Overhead (above)	
Furniture Systems	1		Black	Solid	
Hidden Lines	1			* Hidden (below, behind, beyond)	
Generic Models	1	1	Black	Solid	
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Overhead Lines	1	1 †		* Overhead (above)	
HVAC Zones	1		Black	Solid	
Boundary [4]	5		RGB 255-128-064	* Hidden (below, behind, beyond)	
Lighting Devices	1		Black	Solid	
Lighting Fixtures	1		Black	Solid	
Hidden Lines	1			* Hidden (below, behind, beyond)	
Light Source	1		Yellow	Solid	Default Light Source
Mass	1	2	Black	Solid	Default Mass
Form	1	2			Default Mass
Gridlines	2	1 †	RGB 175-075-000	* Centerline (small)	
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Mass Exterior Wall	1	2			
Mass Floor	1	2			Default Floor Area Face
Mass Glazing	1	2			
Mass Interior Wall	1	2			
Mass Opening	1	2			
Mass Roof	1	2			
Mass Shade	1	2			
Mass Skylight	1	2			
Mass Zone	1	2			
Nodes	2	1 †	Red		
Pattern Fill	2	1 †			
Pattern Lines	2	1 †			
Mechanical Equipment	1		Black	Solid	
Hidden Lines	1			* Hidden (below, behind, beyond)	
Nurse Call Devices	1		Black	Solid	
Parking	1		Black	Solid	
Hidden Lines	1			* Hidden (below, behind, beyond)	
Parts [7]	1	2	Black	Solid	
Hidden Lines	1	2		* Hidden (below, behind, beyond)	
Pipe Accessories	1		Black	Solid	

Pipe Fittings	1		Black	Solid	
Center Line	1		RGB 175-075-000	* Centerline	
Pipe Insulations	1		Black	Solid	
Pipe Placeholders	1		RGB 000-127-000	Solid	
Pipes	1		Black	Solid	
Center Line	1		RGB 175-075-000	* Centerline	
Drop [3]	1		RGB 000-127-000	Solid	
Rise [3]	1		RGB 000-127-000	Solid	
Planting	1		Black	Solid	
Hidden Lines	1			* Hidden (below, behind, beyond)	
Plumbing Fixtures	1		Black	Solid	
Hidden Lines	1			* Hidden (below, behind, beyond)	
Railings	1	1	Black	Solid	
Balusters	1	1			
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Railings Beyond Cut Line [1]	1	1 †		* Overhead (above)	
Rails	1	1			
Ramps	1	3	Black	Solid	
Down Arrow	1	1 †		Solid	
DOWN Text	1	1 †		Solid	
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Ramps Beyond Cut Lines [1]	1	1 †		* Overhead (above)	
Stringers	1	1			
Stringers Beyond Cut line [1]	1	1 †		* Overhead (above)	
Up Arrow	1	1 †		Solid	
UP Text	1	1 †		Solid	
Roads	3	5	Black	Solid	
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Roofs	2	5	Black	Solid	
Common Edges [2]	1 †	2			
Fascias	1	4			
Gutters	1	4			
Hidden Lines	2	1 †		* Hidden (below, behind, beyond)	
Interior Edges [2]	1 †	2			
Roof Soffits	2	2			
Security Devices	1		Black	Solid	
Shaft Openings	1		Black	Solid	
Hidden Lines	1			* Hidden (below, behind, beyond)	
Site	1	2	Black	Solid	
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Pads	2	4	Black	Solid	
Property Lines	3	1 †	Black	* Property Line	
Specialty Equipment	1		Black	Solid	
Hidden Lines	1			* Hidden (below, behind, beyond)	
Sprinklers	1		Black	Solid	
Stairs	1	1	Black	Solid	
Down Arrow	1	1 †		Solid	
DOWN Text	1	1 †		Solid	
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Stairs Beyond Cut Lines [1]	1	1 †		* Overhead (above)	
Stringers	1	1			
Stringers Beyond Cut Lines [1]	1	1 †		* Overhead (above)	
Up Arrow	1	1 †		Solid	
UP Text	1	1 †		Solid	
Structural Area Reinforcement	1	1	Black	Solid	
Boundary [4]	5	1	RGB 255-128-064	* Hidden (below, behind, beyond)	
Structural Beam Systems	1		RGB 000-127-000	Solid	
Hidden Lines	1		RGB 000-127-000	* Hidden (below, behind, beyond)	
Structural Columns	2	4	Black	Solid	
Hidden Faces	1	1		* Hidden (below, behind, beyond)	
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Rigid Links [6]	6	1 †		Solid	
Stick Symbols [5]	6	1 †		* Structural Members	
Structural Connections	1		Black	Solid	

Structural Foundations	2	5	Black	Solid	
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Structural Framing	2	4	Black	Solid	
Chord	6	6			
Girder	6	6			
Hidden Faces	1	1		* Hidden (below, behind, beyond)	
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Horizontal Bracing	4	4			
Joist	4	4			
Kicker Bracing	2	2			
Other	1	1			
Purlin	4	4			
Rigid Links [6]	6	1 †			
Stick Symbols [5]	6	1 †		* Structural Members	
Vertical Bracing	6	6			
Web	4	4			
Structural Path Reinforcement	1	1 †	Black	Solid	
Boundary [4]	5	1 †	RGB 255-128-064	* Hidden (below, behind, beyond)	
Structural Rebar	1	1	Black	* Rebar	
Structural Stiffeners	1	1	Black	Solid	
Structural Trusses	1		Black	Solid	
Stick Symbols [5]	6			* Structural Members	
Telephone Devices	1		Black	Solid	
Topography	1	6	Black	Solid	Site - Earth
Hidden Lines	1	1 †		* Hidden (below, behind, beyond)	
Primary Contours	3	1 †		* Contour - primary	
Secondary Contours	1	1 †		* Contour - secondary	
Triangulation Edges	1	1 †	RGB 128-128-128		
Walls	2	5	Black	Solid	
Common Edges [2]	1 †	2			
Hidden Lines	2	1 †		* Hidden (below, behind, beyond)	
Windows	2	2	Black	Solid	
Elevation Swing	1	1 †		* Swings (in elevation)	
Frame/Mullion	1	3			
Glass	1	1			Glass
Hidden Lines	2	1 †		* Hidden (below, behind, beyond)	
Opening	2	3		Solid	
Plan Swing	1	1 †			
Sill/Head	2	3			
Trim	1	1			
Trim Projection	1	1			
Wires	1		Black	Solid	
Home Run Arrows	1		Black	Solid	
Wire Tick Marks	1		Black	Solid	

† This condition cannot logically occur, therefore the setting in this cell has been arbitrarily set to 1.

[1] For stairs and ramps, the break symbol appears at the cut height of the stair/ramp. The part of the stair/ramp/railing/stringers that is beyond the break symbol (above the cut plane of the view) is shown with special subcategories "Stairs Beyond Cut Lines" and "Stringers Beyond Cut Lines".

[2] The Common Edges subcategory specifies the graphic display of the lines between layers in a multi-layer wall, floor, ceiling or roof. The Interior Edges subcategory of floors and roofs is applied to edges between adjacent layers that have the same override style.  
Note: Edges only appear on a cut surface, so the pen assigned to Projection is irrelevant.

[3] Rise and Drop are symbols indicating pressure changes.

[4] Boundary conditions are analytical model elements that define the support conditions of a structural element by its surrounding environment. These elements are used to communicate engineering assumptions about support conditions to analysis software packages.

[5] At course detail level Revit represents structural elements using a single line at the center of the member (called a Stick Symbol).

[6] Rigid Links are small lines Revit adds to the Analytical Model to bridge the gaps between the endpoints of centerlines of connected members (equal to half the width of the member).

[7] "Parts" are new in 2012 and allow system families to be separated into their component parts which can be manipulated independently.

## Annotation Objects

Category	Line Weight Projection	Line Color	Line Pattern
Adaptive Points [1]	1	Black	Solid
Lines	1	RGB 000-145-200	Solid
Planes	1	RGB 000-145-200	Solid
Points	3	Red	Solid
Air Terminal Tags	1	Black	Solid
Analytical Beam Tags	1	RGB 255-128-064	Solid
Analytical Brace Tags	1	RGB 255-128-064	Solid
Analytical Column Tags	1	RGB 255-128-064	Solid
Analytical Floor Tags	1	RGB 255-128-064	Solid
Analytical Isolated Foundation Tags	1	RGB 255-128-064	Solid
Analytical Slab Foundation Tags	1	RGB 255-128-064	Solid
Analytical Wall Foundation Tags	1	RGB 255-128-064	Solid
Analytical Wall Tags	1	RGB 255-128-064	Solid
Area Load Tags	1	Black	Solid
Area Tags	1	Black	Solid
Brace in Plan View Symbols	2	Black	* Hidden (below, behind, beyond)
Cable Tray Fitting Tags	1	Black	Solid
Cable Tray Tags	1	Black	Solid
Callout Boundary	8	Black	* Callout Boundary
Callout Leader Line	1	Black	Solid
Callout Heads	1	Black	Solid
Casework Tags	1	Black	Solid
Ceiling Tags	1	Black	Solid
Communication Device Tags	1	Black	Solid
Concrete Cover References	2	RGB 175-075-000	Solid
Conduit Fitting Tags	1	Black	Solid
Conduit Tags	1	Black	Solid
Connection Symbols	1	Black	Solid
Curtain Panel Tags	1	Black	Solid
Curtain System Tags	1	Black	Solid
Data Device Tags	1	Black	Solid
Detail Item Tags	1	Black	Solid
Door Tags	1	Black	Solid
Duct Accessory Tags	1	Black	Solid
Duct Fitting Tags	1	Black	Solid
Duct Insulation Tags	1	Black	Solid
Duct Lining Tags	1	Black	Solid
Duct Tags	1	Black	Solid
Electrical Equipment Tags	1	Black	Solid
Electrical Fixture Tags	1	Black	Solid
Elevation Marks	1	Black	Solid
Fire Alarm Device Tags	1	Black	Solid
Flex Duct Tags	1	Black	Solid
Flex Pipe Tags	1	Black	Solid
Floor Tags	1	Black	Solid
Foundation Span Direction Symbol	1	Black	Solid
Furniture System Tags	1	Black	Solid
Furniture Tags	1	Black	Solid
Generic Annotations	1	Black	Solid
Centerline [the CL symbol]	1	Black	* Centerline
Medium Lines	4	Black	Solid
Thin Lines	2	Black	Solid
Wide Lines	6	Black	Solid
Generic Model Tags	1	Black	Solid
Grid Heads	1	Black	Solid
Guide Grid [3]	1	RGB 000-145-200	* Grid
Internal Area Load Tags	1	Black	Solid
Internal Line Load Tags	1	Black	Solid

Internal Point Load Tags	1	Black	Solid
Keynote Tags	1	Black	Solid
Level Heads	1	Black	Solid
Lighting Device Tags	1	Black	Solid
Lighting Fixture Tags	1	Black	Solid
Line Load Tags	1	Black	Solid
Mass Floor Tags	1	Black	Solid
Mass Tags	1	Black	Solid
Match Line	8	Black	* Match Line
Material Tags	1	Black	Solid
Mechanical Equipment Tags	1	Black	Solid
Multi-Category Tags	1	Black	Solid
Nurse Call Device Tags	1	Black	Solid
Parking Tags	1	Black	Solid
Pipe Accessory Tags	1	Black	Solid
Pipe Fitting Tags	1	Black	Solid
Pipe Tags	1	Black	Solid
Plan Region	3	RGB 175-075-255	Solid
Planting Tags	1	Black	Solid
Plumbing Fixture Tags	1	Black	Solid
Point Load Tags	1	Black	Solid
Property Line Segment Tags	1	Black	Solid
Property Tags	1	Black	Solid
Railing Tags	1	Black	Solid
Reference Lines [2]	1	RGB 000-127-000	Solid
Reference Planes [2]	1	RGB 000-127-000	* Layout Line (construction line)
Reference Points [1]	1	Black	Solid
Lines	1	RGB 000-145-200	Solid
Planes	1	RGB 000-145-200	Solid
Points	3	Red	Solid
Revision Cloud Tags	1	Black	Solid
Revision Clouds	7	Black	Solid
Roof Tags	1	Black	Solid
Room Tags	1	Black	Solid
Scope Boxes	1	RGB 175-075-255	* Layout Line (construction line)
Section Boxes	1	RGB 175-075-255	Solid
Section Line	5	Black	Solid
Broken Section Line	1 †		
Section Marks	1	Black	Solid
Medium Lines	4		
Thin Lines	2		
Wide Lines	6		
Security Device Tags	1	Black	Solid
Site Tags	1	Black	Solid
Space Tags	1	Black	Solid
Span Direction Symbol	1	Black	Solid
Specialty Equipment Tags	1	Black	Solid
Spot Elevation Symbols	1	Black	Solid
Sprinkler Tags	1	Black	Solid
Stair Tags	1	Black	Solid
Structural Annotations	1	Black	Solid
Structural Area Reinforcement Symbols	1	Black	Solid
Structural Area Reinforcement Tags	1	Black	Solid
Structural Beam System Tags	1	Black	Solid
Structural Column Tags	1	Black	Solid
Structural Connection Tags	1	Black	Solid
Structural Foundation Tags	1	Black	Solid
Structural Framing Tags	1	Black	Solid
Structural Path Reinforcement Symbols	1	Black	Solid
Structural Path Reinforcement Tags	1	Black	Solid
Structural Rebar Tags	1	Black	Solid
Structural Stiffener Tags	1	Black	Solid
Structural Truss Tags	1	Black	Solid
Telephone Device Tags	1	Black	Solid

Title Blocks	1	Black	Solid
Medium Lines	4		
Thin Lines	2		
Wide Lines	6		
View Reference [4]	1	Black	Solid
View Titles	1	Black	Solid
Wall Tags	1	Black	Solid
Window Tags	1	Black	Solid
Wire Tag	1	Black	Solid
Zone Tags	1	Black	Solid

† This condition cannot logically occur, therefore the setting in this cell has been arbitrarily set to 1.


[1] Adaptive Points and Reference Points are almost the same: both are parametric points in the Conceptual Massing environment, Adaptive Points being in Adaptive Components and Reference Points being in non-Adaptive Components (???). It seems reasonable that they would have the same graphic settings.

[2] Reference Lines and Reference Planes are functionally the same (depending on context) and therefore should have the same graphic settings. [<http://revitoped.blogspot.com/2006/03/once-upon-reference-plane.html>]

[3] The "Guide Grids" category controls Guide Grids, a new feature in Revit 2011 that helps to arrange views on sheets. [<http://revitoped.blogspot.com/2010/06/guide-grids.html>]

[4] What is a View Reference??

### Analytical Objects

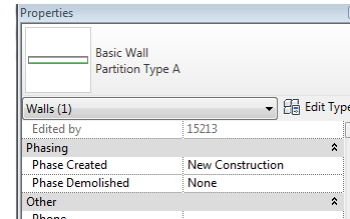
All entries in this tab are set to color  RGB 255-128-064 and pen 1 so they can easily be identified by our users as analytical.

Phasing

Description

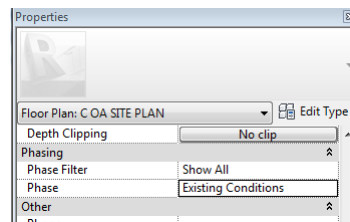
Revit's Phasing system controls the printed appearance of phased items.

The Phasing table defines the phases for the project. The default list is "Existing Conditions" and "New Construction". Additional phases can be added as required. Note: "demo" should not be created as a Phase in Revit. Demolition is a construction activity that happens during a phase of work, for example a wall's "Phase Demolished" property might be set to the "New Construction" Phase.



Phase Created and Phase Demolished are properties of Revit objects.

Phase (i.e. the "current phase") is a property of each View. This is used by the Phase Filter to determine how objects display in the View. The Phase property also determines the Phase Created of objects that are drawn in that View and the Phase Demolished of objects that are demolished in that View.



Status relates the phase setting of the object to the phase setting of the View, so the Status of an object depends on which View it is being seen in. There are only 4 possible values for Status: Existing, New, Demolished and Temporary.

- **Existing:** The object was created in a Phase prior to the current View's Phase setting (the current phase) and continues to exist in the current phase (i.e. it has not been demolished).
- **New:** The object was created in the current phase.
- **Demolished:** The object was demolished in the current phase.
- **Temporary:** The object was created and demolished in the current phase.

Note: There is no Status for "Previously Demolished", "Future Construction" or "Not in Contract", which makes certain drawings difficult to construct.

Phase Filter is also a property of each View (including Schedule views). Phase Filters define the graphics settings for each Status:

- **By Category:** The display settings in Visibility Graphics for that view will be used to display any objects with this Phase Status.
- **Not Displayed:** Any object with this Status will not display in the view
- **Overridden:** Any object with this Status will display with the graphic settings on the Graphic Overrides tab of the Phases dialog. Each Status has only one override definition.

In 3D views, where the Phase Filter for an object calls for it to be displayed using Overridden, a Material (defined on the Graphic Overrides tab) overrides the object's shaded appearance for shaded views and render appearance for rendered views.

Default Phases and their Descriptions

While there is no standard for how Phases should be named in multi-phase projects, if there will be more than one Revit file on the project it is desirable that Phases are coordinated in all models. Do not create a phase for Construction Administration or for LEED. Phasing is not the correct way to address these issues.

Project Phases (default list)

	Name	Description
1	Existing Conditions	All elements present prior to the beginning of the project.
2	New Construction	All project related demolition and construction.

Phase Filters

		New	Existing	Demolished	Temporary
1	All Remaining from Prior Phases + All in Current	By Category	Overridden	Overridden	Overridden
2	All Remaining from Prior Phases + Demolished in Current	Not Displayed	Overridden	Overridden	Not Displayed
3	All Remaining from Prior Phases + New in Current	By Category	Overridden	Not Displayed	Overridden
4	All Remaining from Prior Phases + Temporary in Current	Not Displayed	Overridden	Not Displayed	Overridden
5	Not Themed by Phase: New in Current + Prior not Overridden	By Category	By Category	Not Displayed	Not Displayed
6	QA - All in Current	By Category	Not Displayed	Overridden	Overridden
7	QA - All Overridden	Overridden	Overridden	Overridden	Overridden
8	QA - Only Demolished in Current	Not Displayed	Not Displayed	Overridden	Not Displayed
9	QA - Only New in Current	By Category	Not Displayed	Not Displayed	Not Displayed
10	QA - Only Remaining from Prior	Not Displayed	By Category	Not Displayed	Not Displayed
11	QA - Only Temporary in Current	Not Displayed	Not Displayed	Not Displayed	Overridden
12	Show All	By Category	Overridden	Overridden	Overridden

Graphic Overrides

The settings in the table below are applied only to objects in a view that have a Status of Overridden in that view. Further, Material in the table below applies only when the view is 3D. The definition of each Material is shown in the table below.

Status	Projection/Surface		Cut			Material
	Lines	Patterns	Lines	Patterns	½	
Existing	2-Black-Solid	Visible-No Override	3-Black-Solid	100,100,100 – Solid Fill	<input type="checkbox"/>	* Phase - Exist
Demolished	2-Black-* Demolished	Visible-No Override	3-Black-* Demolished	Visible-No Override	<input type="checkbox"/>	* Phase - Demo
New	4-Black-Solid	Visible-No Override	5-Black-Solid	Visible-No Override	<input type="checkbox"/>	* Phase - New
Temporary	2-Blue-* Temporary Construction	Visible-No Override	3-Blue-* Temporary Construction	Blue- Diagonal Left/Down Medium	<input type="checkbox"/>	* Phase - Temp

The table below defines the Materials shown in the Graphic Overrides table above. Note: the "cut" property applies to the ends of objects that are cut by a section box in a 3D view. If the material is set to have no cut pattern, the end of the object will be open (i.e. you can see inside the object). If a cut pattern is defined, the object will be capped with the pattern/fill defined.

Phase Material	Settings
* Phase - Exist	Gray (100,100,100), 0% transparent, no render appearance, no surface pattern, cut solid fill black
* Phase - Demo	Red (256,0,0), 40% transparent, no render appearance, no surface pattern, no cut pattern
* Phase - New	Green (0,256,0), 40% transparent, no render appearance, no surface pattern, no cut pattern
* Phase - Temp	Blue (0,0,256), 40% transparent, no render appearance, no surface pattern, no cut pattern

Note: the Material prefix has one space between the \* and Phase, and one space on either side of the hyphen.

## Text Styles (including Labels and Leaders)

### Description

Printable text in a Revit file can be produced via four kinds of System Family plus Schedules. With the exception of Schedules, “styles” for text are simply Types of the System Family with different formatting selections.

- **System Family : Text** inserted with the Text tool, and can include a leader
- **System Family : Label** a text placeholder added to Tag (incl. Keynote) or Titleblock/View Title families while in the Family Editor.
- **System Family : Dimension** refer to Dimension Styles
- **System Family : Model Text** extrudable text intended for architectural features (signage) in a model, and thus not addressed in the Gensler Revit Standards
- **Schedules** have two kinds of text (header and body) which are configured in the properties of each Schedule.

Since each is a different System Family, each has its own Types. Thus, creating consistent text styling in a Revit project requires that the Types of the above System Families are created with consistent styling. This is particularly important with Labels because each tag type maintains its styles uniquely.

### Key Issues

The styling of text in Text and Labels is the same, so definitions given for Text Styles also apply to Labels.

Text in Revit is used in three ways:

- text in notes for technical documentation
- text in view titles and titleblocks
- text for graphically styled presentations, typically matching graphics created using InDesign or PowerPoint

Gensler’s International Tech Steering Committee (ITSC) has stated that 10 point text will be used for annotation in documentation for all projects. Exact conversion is used: **27/256” 2.65mm**.

Annotation uses Arial Narrow font at a width factor of 1 (not Arial with 0.8 width factor). Use of Arial Narrow at a width factor of 1 allows matching of text in Schedules (which do not have user-configurable width factor for text). Bold is not applied to the Type settings of the Text because of a bug [as of 2011] that causes the size of Arial Narrow font to change. Bolding should be applied to text using the Format menu in Revit as this does not trigger the bug.

Schedules have two kinds of text:

- **Heading:** Arial, 14pt
- **Body:** same as Annotation – 10pt

Titleblock and View Title Families have been designed and should not be changed, thus styles are not provided in the template for the purposes of creating alternative title text in documentation. The Gensler logo should not be typed in Kievit font. It should be inserted as an Annotation Family created using Filled Regions, or inserted as an image at a maximum of 150dpi.

Styles have been provided so that presentation material produced in Revit can be made to match presentation material produced in other software (Arial at common point sizes, with transparent and opaque backgrounds).

Tag families (incl. Keynotes) should use the same text settings as Annotation – 10pt or Annotation – 10pt (opaque).

### Type Settings

Text	Annotation – 20pt Annotation – 20pt (opaque) Annotation – 10pt Annotation – 10pt (opaque)	Internal Note
Graphics		
Color	Black	RGB 255-175-000
Line Weight	1 [has no bearing on text, just border]	8
Background	varies [Opaque or Transparent]	Transparent
Show Border	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Leader/Border Offset	5/64" 2mm	5/64" 2mm
Leader Arrowhead [Text only, not Label]	* Arrow	* Arrow
Text		
Text Font	Arial Narrow [Presentation: Arial]	Arial Narrow
Text Size	27/256" 2.65mm 53/256" 5.3mm [Presentation varies]	53/256" 5.3mm
Tab Size	1/2" 15mm	1/2" 15mm
Bold	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Italic	<input type="checkbox"/>	<input type="checkbox"/>
Underline	<input type="checkbox"/>	<input type="checkbox"/>
Width Factor	1.0	1.0

### Type List

Schedule of Types for System Family : Text in the Template

Annotation – 20pt  
 Annotation – 20pt (opaque)  
 Annotation – 10pt  
 Annotation – 10pt (opaque)  
 Internal Note

*Styles below can be imported from the Text Styles source file if not present in the template*

Arial - 06pt - Black  
 Arial - 06pt - Black (opaque)  
 Arial - 08pt - Black  
 Arial - 08pt - Black (opaque)  
 Arial - 09pt - Black  
 Arial - 09pt - Black (opaque)  
 Arial - 10pt - Black  
 Arial - 10pt - Black (opaque)  
 Arial - 11pt - Black  
 Arial - 11pt - Black (opaque)  
 Arial - 12pt - Black  
 Arial - 12pt - Black (opaque)  
 Arial - 14pt - Black  
 Arial - 14pt - Black (opaque)  
 Arial - 16pt - Black  
 Arial - 16pt - Black (opaque)  
 Arial - 24pt - Black  
 Arial - 24pt - Black (opaque)  
 Arial - 36pt - Black  
 Arial - 36pt - Black (opaque)  
 Arial - 48pt - Black  
 Arial - 48pt - Black (opaque)  
 Arial - 72pt - Black  
 Arial - 72pt - Black (opaque)  
 Arial - 96pt - Black  
 Arial - 96pt - Black (opaque)

## Dimension Styles

### Description

Dimensions are view-specific elements that show distances, angles, slopes and coordinates in a project.

In Revit terminology, there are two types of dimension: information for use while working (called Temporary Dimensions) and those that go on the drawings for construction (called Permanent Dimensions). This standard deals only with Permanent Dimensions. There is no user control over Temporary Dimensions: their graphic style is fixed (see also: Project Units).

Revit implements dimensions as System Families, and dimension “styles” are therefore Types of System Families. The six dimension System Families in Revit are:

- **System Family : Linear Dimension Style** (note: “Aligned” and “Arc Length” are cases of Linear)
- **System Family : Angular Dimension Style**
- **System Family : Radial Dimension Style**
- **System Family : Spot Elevations**
- **System Family : Spot Coordinates**
- **System Family : Spot Slopes**

### Key Issues

Manually overriding dimension values is **strictly forbidden**.

Do **not** make new Dimension Styles.

Dimension text conforms to Annotation – 10pt text standards (27/256” 2.65mm). See Text Styles (including Labels and Leaders).

“Tolerance” is different to “Rounding”. Tolerances show +/- for a value, e.g. 52.7mm +/- 0.1mm. Rounding approximates a value for the sake of simplicity, e.g. 52.7mm rounded to the nearest 1mm is 53mm. Rounding is used in architectural drawings; Tolerance is not.

Alternate Units: Occasionally projects are required to dimension in two unit systems. [As of 2011] The system for achieving this is place two dimension objects one on top of the other and manually move the text of the second under the dimension line. The Alternate Units dimension styles that enable this are in a Source File and must be imported into the Revit file by the project team if required.

**Include Rounding in the Style name? Metric too? Only Variables included in Name?**

Linear	Meters	Millimeters	Alternate Unit
	Meters (opaque)	Millimeters (opaque) Imperial – Rounding 1/16” Imperial – Rounding 1/16” (opaque)	Alternate Unit (opaque)
<b>Graphics</b>			
Dim String Type	Continuous	Continuous	Continuous
Leader Type	Arc	Arc	Arc
Leader Tick Mark	* Arrow	* Arrow	* Arrow
Show Leader	Beyond Witness Lines	Beyond Witness Lines	Beyond Witness Lines
Tick Mark	* Diagonal	* Diagonal	* Diagonal
Line Weight	1	1	1
Tick Mark Line Weight	7	7	7
Dim Line Extn	0	0	0
Flipped Dim Line Extn	—	—	—
Witness Line Control	Gap to Element	Gap to Element	Gap to Element
Witness Line Length	—	—	—
Witness Line Gap	1.5mm	1/16” 1.5mm	1/16”
Witness Line Extn	1.5mm	1/16” 1.5mm	1/16”
Centerline Symbol	Symbol - Centerline : Centerline	Symbol - Centerline : Centerline	Symbol - Centerline : Centerline
Centerline Pattern	* Centerline (small)	* Centerline (small)	* Centerline (small)
Centerline Tick Mark	Default	Default	Default
Interior Tick Mark	—	—	—
Ordinate Dim Setting	—	—	—
Color	Black	Black	Black
Dim Line Snap Distance	—	—	—
<b>Text</b>			
Width Factor	1.0	1.0	1.0
Text Size	2.65mm	27/256” 2.65mm	27/256”
Text Offset	0.75mm	1/32” 0.75mm	1/4”
Read Convention	Up, then Left	Up, then Left	Up, then Left
Text Font	Arial Narrow	Arial Narrow	Arial Narrow
Text Background	Transparent [Opaque]	Transparent [Opaque]	Transparent [Opaque]
Units Format	1234.568 m	1'-5 5/16" 1234 mm	1235 mm
Units	Meters	Feet and fractional inches Millimeters	Millimeters
Rounding	Rounding 3dp	to the nearest 1/16" 1mm	to the nearest 1mm
Units Symbol	m	— mm	mm
Suppress Trailing 0's	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Suppress 0 feet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Show +	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use Digit Grouping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suppress Spaces	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Show Opening Height	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Underline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Italic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Other</b>			
Equality Text	EQ	EQ	EQ



Angular	Degrees Minutes Seconds	Decimal Degrees
	Degrees Minutes Seconds (opaque)	Decimal Degrees (opaque)
Graphics		
Leader Type	Arc	Arc
Leader Tick Mark	* Arrow	* Arrow
Show Leader	Beyond Witness Lines	Beyond Witness Lines
Tick Mark	* Diagonal	* Diagonal
Line Weight	1	1
Tick Mark Line Weight	7	7
Dim Line Extn	0	0
Flipped Dim Line Extn	—	—
Witness Line Control	Gap to Element	Gap to Element
Witness Line Length	—	—
Witness Line Gap	1/16" 1.5mm	1/16" 1.5mm
Witness Line Extn	1/16" 1.5mm	1/16" 1.5mm
Centerline Symbol	Symbol - Centerline : Centerline	Symbol - Centerline : Centerline
Centerline Pattern	* Centerline (small)	* Centerline (small)
Centerline Tick Mark	Default	Default
Interior Tick Mark	—	—
Ordinate Dim Setting	—	—
Color	Black	Black
Dim Line Snap Distance	—	—
Text		
Width Factor	1.0	1.0
Text Size	27/256" 2.65mm	27/256" 2.65mm
Text Offset	1/32" 0.75mm	1/32" 0.75mm
Read Convention	Up, then Left	Up, then Left
Text Font	Arial Narrow	Arial Narrow
Text Background	Transparent [Opaque]	Transparent [Opaque]
Units Format	12° 34' 57"	12.35°
Units	Degrees minutes seconds	Decimal degrees
Rounding	—	2 decimal places
Units Symbol	—	° [degree sign]
Suppress Trailing 0's	—	<input type="checkbox"/>
Suppress 0 feet	—	—
Show +	—	—
Use Digit Grouping	<input type="checkbox"/>	<input type="checkbox"/>
Suppress Spaces	—	—
Underline	<input type="checkbox"/>	<input type="checkbox"/>
Italic	<input type="checkbox"/>	<input type="checkbox"/>
Bold	<input type="checkbox"/>	<input type="checkbox"/>
Other		
Equality Text	EQ	EQ

Radial	Meters	Millimeters	Alternate Unit Alternate Unit (opaque)
	Meters (opaque)	Millimeters (opaque) Imperial - Rounding 1/16" Imperial - Rounding 1/16" (opaque)	
Graphics			
Leader Type	Arc	Arc	Arc
Leader Tick Mark	* Arrow	* Arrow	* Arrow
Show Leader	Beyond Witness Lines	Beyond Witness Lines	Beyond Witness Lines
Tick Mark	* Diagonal	* Diagonal	* Diagonal
Line Weight	1	1	1
Tick Mark Line Weight	7	7	7
Dim Line Extn	0.75mm	1/32" 0.75mm	1/32"
Flipped Dim Line Extn	—	—	—
Color	Black	Black	Black
Text			
Width Factor	1.0	1.0	1.0
Text Size	2.65mm	27/256" 2.65mm	27/256"
Text Offset	0.75mm	1/32" 0.75mm	1/32"
Read Convention	Up, then Left	Up, then Left	Up, then Left
Text Font	Arial Narrow	Arial Narrow	Arial Narrow
Text Background	Transparent [Opaque]	Transparent [Opaque]	Transparent [Opaque]
Units Format	1234.568 m	1'-5 5/16" 1234 mm	1234 mm
Units	Meters	Feet and fractional inches Millimeters	Millimeters
Rounding	Rounding 3dp	to the nearest 1/16" 1mm	to the nearest 1mm
Units Symbol	m	—	mm
Suppress Trailing 0's	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Suppress 0 feet	—	—	—
Show +	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use Digit Grouping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suppress Spaces	—	—	—
Underline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Italic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other			
Center Marks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Center Mark Size	1/16" 1.5mm	1/16" 1.5mm	1/16"
Radius Prefix	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## Spot Elevation

- \* Meters - Project
- \* Meters - Project (opaque)
- \* Meters - Relative
- \* Meters - Relative (opaque)
- \* Meters - Shared
- \* Meters - Shared (opaque)

- \* Millimeters - Project
- \* Millimeters - Project (opaque)
- \* Millimeters - Relative
- \* Millimeters - Relative (opaque)
- \* Millimeters - Shared
- \* Millimeters - Shared (opaque)
- \* Project
- \* Project (opaque)
- \* Relative
- \* Relative (opaque)
- \* Shared
- \* Shared (opaque)

Constraints		
Rotate with Component	<input type="checkbox"/>	<input type="checkbox"/>
<b>Graphics</b>		
Leader Arrowhead	* Dot	* Dot
Leader Line Weight	1	1
Leader Arrowhead Line Weight	1	1
Color	Black	Black
Symbol	Symbol - Filled Target : Filled Target	Symbol - Filled Target : Filled Target
<b>Text</b>		
Width Factor	1.0	1.0
Underline	<input type="checkbox"/>	<input type="checkbox"/>
Italic	<input type="checkbox"/>	<input type="checkbox"/>
Bold	<input type="checkbox"/>	<input type="checkbox"/>
Text Size	27/256" 2.65mm	27/256" 2.65mm
Text Offset from Leader	1/32" 0.75mm	1/32" 0.75mm
Read Convention	Up, then Left	Up, then Left
Text Font	Arial Narrow	Arial Narrow
Text Background	Transparent [Opaque]	Transparent [Opaque]
Units Format	1234.568 m	1'-5 5/16" 1234 mm
Units	Meters	Feet and fractional inches Millimeters
Rounding	Rounding 3dp	to the nearest 1/16" 1mm
Units Symbol	m	—
Suppress Trailing 0's	<input type="checkbox"/>	—
Suppress 0 feet	—	<input checked="" type="checkbox"/>
Show +	<input type="checkbox"/>	<input type="checkbox"/>
Use Digit Grouping	<input type="checkbox"/>	<input type="checkbox"/>
Suppress Spaces	<input type="checkbox"/>	<input type="checkbox"/>
Text Offset from Symbol	3/8" 7.5mm [ineffective]	3/8" 7.5mm [ineffective]
Text Orientation	Horizontal	Horizontal
Text Location	Above Leader	Above Leader
Elevation Indicator	EL	EL
Elevation Origin	Project   Relative   Shared	Project   Relative   Shared
Elevation Indicator as Prefix/Suffix	Prefix	Prefix
Top Indicator	—	—
Bottom Indicator	—	—
Top Indicator as Prefix/Suffix	Prefix	Prefix
Bottom Indicator as Prefix/Suffix	Prefix	Prefix

## Spot Coordinate

- \* Meters - Project
- \* Meters - Project (opaque)
- \* Meters - Relative
- \* Meters - Relative (opaque)
- \* Meters - Shared
- \* Meters - Shared (opaque)

- \* Millimeters - Project
- \* Millimeters - Project (opaque)
- \* Millimeters - Relative
- \* Millimeters - Relative (opaque)
- \* Millimeters - Shared
- \* Millimeters - Shared (opaque)
- \* Project
- \* Project (opaque)
- \* Relative
- \* Relative (opaque)
- \* Shared
- \* Shared (opaque)

Constraints		
Rotate with Component	<input type="checkbox"/>	<input type="checkbox"/>
<b>Graphics</b>		
Leader Arrowhead	* Dot	* Dot
Leader Line Weight	1	1
Leader Arrowhead Line Weight	1	1
Color	Black	Black
Symbol	Symbol - Filled Target : Filled Target	Symbol - Filled Target : Filled Target
<b>Text</b>		
Width Factor	1.0	1.0
Underline	<input type="checkbox"/>	<input type="checkbox"/>
Italic	<input type="checkbox"/>	<input type="checkbox"/>
Bold	<input type="checkbox"/>	<input type="checkbox"/>
Text Size	27/256" 2.65mm	27/256" 2.65mm
Text Offset from Leader	1/32" 0.75mm	1/32" 0.75mm
Read Convention	Up, then Left	Up, then Left
Text Font	Arial Narrow	Arial Narrow
Text Background	Transparent [Opaque]	Transparent [Opaque]
Units Format	1234.568 m	1'-5 5/16" 1234 mm
Units	Meters	Feet and fractional inches Millimeters
Rounding	Rounding 3dp	to the nearest 1/16" 1mm
Units Symbol	m	—
Suppress Trailing 0's	<input type="checkbox"/>	—
Suppress 0 feet	—	<input checked="" type="checkbox"/>
Show +	<input type="checkbox"/>	<input type="checkbox"/>
Use Digit Grouping	<input type="checkbox"/>	<input type="checkbox"/>
Suppress Spaces	<input type="checkbox"/>	<input type="checkbox"/>
Text Offset from Symbol	3/8" 7.5mm [ineffective]	3/8" 7.5mm [ineffective]
Text Orientation	Horizontal	Horizontal
Text Location	Above Leader	Above Leader
Elevation Indicator	—	—
Coordinate Origin	Project   Relative   Shared	Project   Relative   Shared
Top Value	East / West	East / West
Bottom Value	North / South	North / South
North / South Indicator	Y	Y
East / West Indicator	X	X
Include Elevation	<input type="checkbox"/>	<input type="checkbox"/>
Indicator as Prefix/Suffix	Prefix	Prefix

Spot Slope	* Degrees * Degrees (opaque)	* Rise / Run * Rise / Run (opaque)	* Rise / Run Alternate Unit * Rise / Run Alternate Unit (opaque)
<b>Constraints</b>			
Rotate with Component	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> [not changeable]	<input checked="" type="checkbox"/> [not changeable]
<b>Graphics</b>			
Leader Arrowhead	* Arrow	* Arrow	* Arrow
Leader Line Weight	1	1	1
Leader Arrowhead Line Weight	1	1	1
Color	Black	Black	Black
Slope Direction	Down	Down	Down
Leader Line Length	1"	1" [length when printed]	1" [length when printed]
<b>Text</b>			
Width Factor	1.0	1.0	1.0
Underline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Italic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bold	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Text Size	27/256" 2.65mm	27/256" 2.65mm	27/256"
Text Offset from Leader	1/32" 0.75mm	1/32" 0.75mm	1/32"
Text Font	Arial Narrow	Arial Narrow	Arial Narrow
Text Background	Transparent [Opaque]	Transparent [Opaque]	Transparent [Opaque]
Units Format	12.35°	1'-5 5/16" / 1'-0" 1235 / 1000	1235 / 1000
Units	Decimal degrees	Rise / 1'-0" Rise / 1000mm	Rise / 1000mm
Rounding	2 decimal places	to the nearest 1/16" 1mm (3dp)	to the nearest 1mm
Units Symbol	° [degree sign]	—	—
Suppress Trailing 0's	<input type="checkbox"/>	—	<input type="checkbox"/>
Suppress 0 feet	—	<input checked="" type="checkbox"/>	—
Show +	—	—	—
Use Digit Grouping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suppress Spaces	—	<input checked="" type="checkbox"/>	—

## Fill Patterns

### Description

There are two types of fill patterns in Revit: model and drafting.

- The Drafting Patterns section deals with symbolic patterns and is divided into Materials Cut and Materials Elevated. Drafting patterns remain a fixed size relative to the sheet, regardless of view scale. The patterns are displayed in three swatch sizes (2", 1" and ½" 50mm, 25mm and 12mm) and show the pattern as it would appear on the page.
- The Model Patterns section deals with the representation of physical objects such as bricks, boards and tiles. These patterns are defined at real scale, are applied to the building in Revit and will measure correctly. Model patterns appear denser at coarser view scales and sparser at finer ones. The patterns are displayed in a swatch size of 10'x10' 3000mmx3000mm at 1/8"=1' 1:100.

Shades (solid fills) are a special case of drafting pattern. The Solid Fill pattern is hard coded into Revit (100% black fill). Colored shades are created by the user from Filled Regions which use the Solid Fill pattern and vary the color in the definition of the Filled Region.

Note the difference between Fill Patterns and Filled Regions:

- **Fill Patterns** are definitions of patterns and can be accessed from the Additional Settings icon on the Manage menu [as of Revit 2012]
- **Filled Regions** are System Family objects. Types are created to define combinations of Fill Pattern, Background, Line Weight (for the border) and color, as well as identity data. A Type can then be applied to any number of insertions, each with a unique 2D shape.

### Key Issues

Revit's existing restrictions limit the maximum size and density of patterns, although the parameters for this are not currently documented.

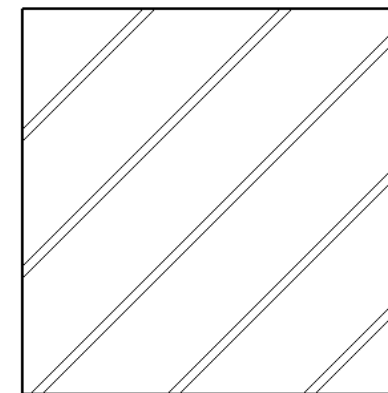
to add: Mineral Wool (as per partition standards)

#### Drafting Patterns

##### Materials Cut

All patterns are "Orient to View"

##### Steel (material cut only)



```
* Steel (large)
;%TYPE=DRAFTING
45, 0, 0, 0, 0.5
45, 0.0625, 0, 0.5, 0.5

* Steel (medium)
;%TYPE=DRAFTING
45, 0, 0, 0, 0.25
45, 0.03125, 0, 0.25, 0.25

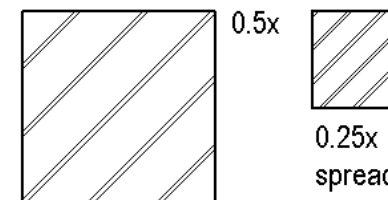
* Steel (small)
;%TYPE=DRAFTING
45, 0, 0, 0, 0.125
45, 0.025, 0, 0.125, 0.125
```

The 0.25 scaled version of this pattern spreads the lines by 50% for clarity when printed.

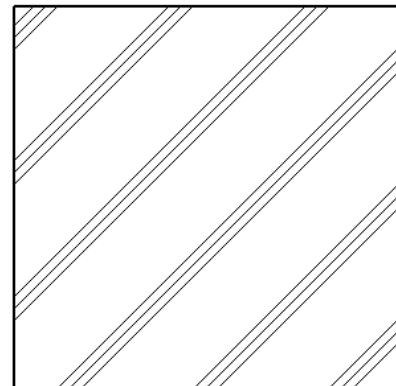
This pattern is half as dense as the Steel pattern that comes with Revit (i.e. every second repeat of the pattern is eliminated).

Note: there is no pattern for "metal" generically.

Greg – lines too close and bleed.  
Groupings closer, lines spaced wider.



**Aluminum** (material cut only, not projection)



```
* Aluminum (large)
;%TYPE=DRAFTING
45, 0, 0, 0, 0.5
45, 0.0625, 0, 0.5, 0.5
45, -0.0625, 0, 0.5, 0.5
```

```
* Aluminum (medium)
;%TYPE=DRAFTING
45, 0, 0, 0, 0.25
45, 0.03125, 0, 0.25, 0.25
45, -0.03125, 0, 0.25, 0.25
```

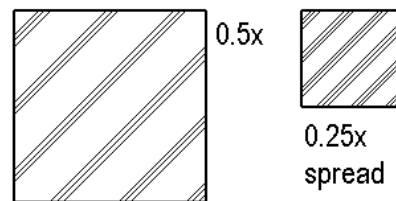
```
* Aluminum (small)
;%TYPE=DRAFTING
45, 0, 0, 0, 0.125
45, 0.025, 0, 0.125, 0.125
45, -0.025, 0, 0.125, 0.125
```

The 0.25 scaled version of this pattern spreads the lines by 50% for clarity when printed.

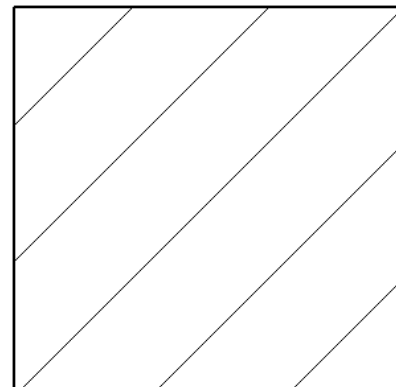
This pattern is half as dense as the Aluminum pattern that comes with Revit (i.e. every second repeat of the pattern is eliminated).

Note: there is no pattern for "metal" generically.

Greg - lines too close and bleed. Groupings closer, lines spaced wider.



**Brick** (material cut only)

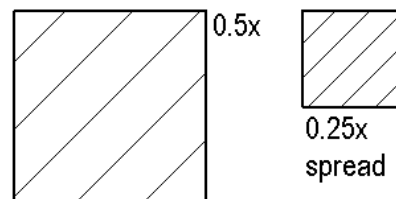


```
* Brick (large)
;%TYPE=DRAFTING
45, 0, 0, 0, 0.5
```

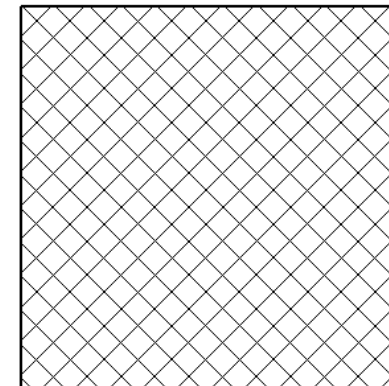
```
* Brick (medium)
;%TYPE=DRAFTING
45, 0, 0, 0, 0.25
```

```
* Brick (small)
;%TYPE=DRAFTING
45, 0, 0, 0, 0.125
```

Note the difference between "brick" and "masonry": masonry is any work done by masons, including brick, stone, or concrete block. Masonry includes:  
 Brick - fired clay units  
 CMU - concrete masonry units  
 Stone - quarried natural stone units



**Concrete Block (CMU)** (material cut only)



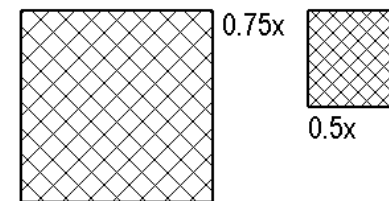
```
* Concrete Block CMU (large),
;%TYPE=DRAFTING
45, 0, 0, 0, 0.125
-45, 0, 0, 0, 0.125
```

```
* Concrete Block CMU (medium),
;%TYPE=DRAFTING
45, 0, 0, 0, 0.09375
-45, 0, 0, 0, 0.09375
```

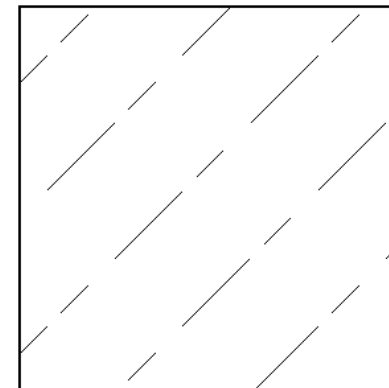
```
* Concrete Block CMU (small),
;%TYPE=DRAFTING
45, 0, 0, 0, 0.0625
-45, 0, 0, 0, 0.0625
```

Note: this is the same pattern as Fabric Wrapped Panel in elevation.

Greg - CMU less dense (remove 3 out of 4 lines (similar to brick). This makes it difference to Fabric Wrap too.



**Stone** (material cut only)

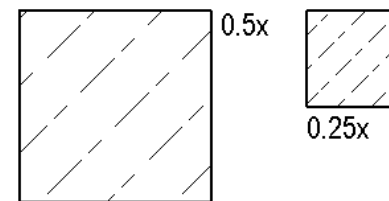


Greg - diagonal lines alternating between solid and the dash as shown

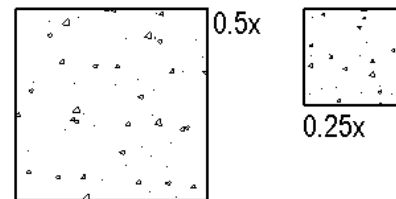
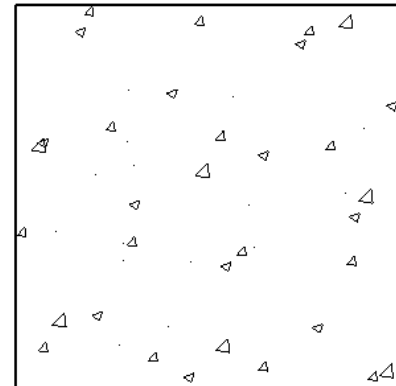
```
* Stone (large), Stone cut in section - non-representational pattern
;%TYPE=DRAFTING
45, 0, 0, 0, 0.5, 0.5, -0.1, 0.2, -0.2
```

```
* Stone (medium), Stone cut in section - non-representational pattern
;%TYPE=DRAFTING
45, 0, 0, 0, 0.25, 0.25, -0.05, 0.1, -0.1
```

```
* Stone (small), Stone cut in section - non-representational pattern
;%TYPE=DRAFTING
45, 0, 0, 0, 0.125, 0.125, -0.025, 0.05, -0.05
```

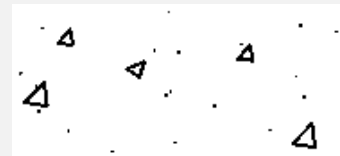


### Concrete (material cut only)



Can this pattern be used in Projection?  
Greg - no.

Zoomed in it looks like this:



\* Concrete (large), Concrete cut in section

```
;%TYPE=DRAFTING
50, 0, 0, 0.33038, -0.4718316, 0.06, -0.66
355, 0, 0, -0.16302496, 0.5897894, 0.048, -0.528
100.4514, 0.04781734, -0.004183472, 0.458447, -0.5551814, 0.05099216, -0.5609136
46.1842, 0, 0.16, 0.49557, -0.7077474, 0.09, -0.99
96.6356, 0.0711494, 0.14896536, 0.6876704, -0.832772, 0.07648824, -0.8413704
351.1842, 0, 0.16, 0.6194626, 0.8846842, 0.072, -0.792
21, 0.08, 0.12, 0.33038, -0.4718316, 0.06, -0.66
326, 0.08, 0.12, -0.16302496, 0.5897894, 0.048, -0.528
71.4514, 0.11979378, 0.09315872, 0.458447, -0.5551814, 0.05099216, -0.5609136
37.5, 0, 0, 0.16984, 0.20536, 0, -0.5216, 0, -0.536, 0, -0.53
7.5, 0, 0, 0.24984, 0.28536, 0, -0.3056, 0, -0.5096, 0, -0.202
-32.5, -0.1784, 0, 0.369872, 0.21424, 0, -0.2, 0, -0.624, 0, -0.828
-42.5, -0.2584, 0, 0.289872, 0.37424, 0, -0.26, 0, -0.4144, 0, -0.588
```

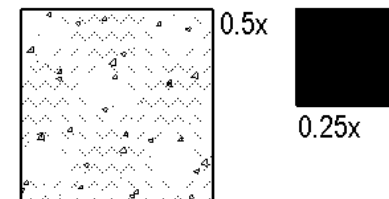
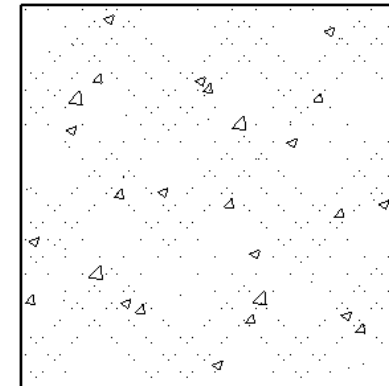
\* Concrete (medium), Concrete cut in section

```
;%TYPE=DRAFTING
50, 0, 0, 0.247785, -0.3538737, 0.045, -0.495
355, 0, 0, -0.12226872, 0.44234205, 0.036, -0.396
100.4514, 0.035863005, -0.003137604, 0.34383525, -0.41638605, 0.03824412, -0.4206852
46.1842, 0, 0.12, 0.3716775, -0.53081055, 0.0675, -0.7425
96.6356, 0.05336205, 0.11172402, 0.5157528, -0.624579, 0.05736618, -0.6310278
351.1842, 0, 0.12, 0.46459695, 0.66351315, 0.054, -0.594
21, 0.06, 0.09, 0.247785, -0.3538737, 0.045, -0.495
326, 0.06, 0.09, -0.12226872, 0.44234205, 0.036, -0.396
71.4514, 0.089845335, 0.06986904, 0.34383525, -0.41638605, 0.03824412, -0.4206852
37.5, 0, 0, 0.12738, 0.15402, 0, -0.3912, 0, -0.402, 0, -0.3975
7.5, 0, 0, 0.18738, 0.21402, 0, -0.2292, 0, -0.3822, 0, -0.1515
-32.5, -0.1338, 0, 0.277404, 0.16068, 0, -0.15, 0, -0.468, 0, -0.621
-42.5, -0.1938, 0, 0.217404, 0.28068, 0, -0.195, 0, -0.3108, 0, -0.441
```

\* Concrete (small), Concrete cut in section

```
;%TYPE=DRAFTING
50, 0, 0, 0.16519, -0.2359158, 0.03, -0.33
355, 0, 0, -0.08151248, 0.2948947, 0.024, -0.264
100.4514, 0.02390867, -0.002091736, 0.2292235, -0.2775907, 0.02549608, -0.2804568
46.1842, 0, 0.08, 0.247785, -0.3538737, 0.045, -0.495
96.6356, 0.0355747, 0.07448268, 0.3438352, -0.416386, 0.03824412, -0.4206852
351.1842, 0, 0.08, 0.3097313, 0.4423421, 0.036, -0.396
21, 0.04, 0.06, 0.16519, -0.2359158, 0.03, -0.33
326, 0.04, 0.06, -0.08151248, 0.2948947, 0.024, -0.264
71.4514, 0.05989689, 0.04657936, 0.2292235, -0.2775907, 0.02549608, -0.2804568
37.5, 0, 0, 0.08492, 0.10268, 0, -0.2608, 0, -0.268, 0, -0.265
7.5, 0, 0, 0.12492, 0.14268, 0, -0.1528, 0, -0.2548, 0, -0.101
-32.5, -0.0892, 0, 0.184936, 0.10712, 0, -0.1, 0, -0.312, 0, -0.414
-42.5, -0.1292, 0, 0.144936, 0.18712, 0, -0.13, 0, -0.2072, 0, -0.294
```

### Precast (material cut only)



Can this pattern be used in Projection?  
Greg - no

Precast is the Concrete pattern with a regular dot grid overlaid to simulate a gray poche. In the image at left Revit is simplifying the pattern for screen acceleration purposes, including reducing the 0.25 version to black. Zoomed in it looks like this:



\* Concrete Precast (large), Precast Concrete cut in section

```
;%TYPE=DRAFTING
90, 0, 0, 0, 0.03, 0.03, 0, -0.06
50, 0, 0, 0, 0.33038, -0.4718316, 0.06, -0.66
355, 0, 0, -0.16302496, 0.5897894, 0.048, -0.528
100.4514, 0.04781734, -0.004183472, 0.458447, -0.5551814, 0.05099216, -0.5609136
46.1842, 0, 0.16, 0.49557, -0.7077474, 0.09, -0.99
96.6356, 0.0711494, 0.14896536, 0.6876704, -0.832772, 0.07648824, -0.8413704
351.1842, 0, 0.16, 0.6194626, 0.8846842, 0.072, -0.792
21, 0.08, 0.12, 0.33038, -0.4718316, 0.06, -0.66
326, 0.08, 0.12, -0.16302496, 0.5897894, 0.048, -0.528
71.4514, 0.11979378, 0.09315872, 0.458447, -0.5551814, 0.05099216, -0.5609136
37.5, 0, 0, 0.16984, 0.20536, 0, -0.5216, 0, -0.536, 0, -0.53
7.5, 0, 0, 0.24984, 0.28536, 0, -0.3056, 0, -0.5096, 0, -0.202
-32.5, -0.1784, 0, 0.369872, 0.21424, 0, -0.2, 0, -0.624, 0, -0.828
-42.5, -0.2584, 0, 0.289872, 0.37424, 0, -0.26, 0, -0.4144, 0, -0.588
```

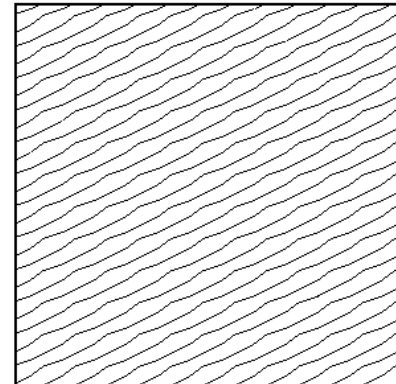
\* Concrete Precast (medium), Precast Concrete cut in section

```
;%TYPE=DRAFTING
90, 0, 0, 0, 0.0225, 0.025, 0, -0.045
50, 0, 0, 0, 0.247785, -0.3538737, 0.045, -0.495
355, 0, 0, -0.12226872, 0.44234205, 0.036, -0.396
100.4514, 0.035863005, -0.003137604, 0.34383525, -0.41638605, 0.03824412, -0.4206852
46.1842, 0, 0.12, 0.3716775, -0.53081055, 0.0675, -0.7425
96.6356, 0.05336205, 0.11172402, 0.5157528, -0.624579, 0.05736618, -0.6310278
351.1842, 0, 0.12, 0.46459695, 0.66351315, 0.054, -0.594
21, 0.06, 0.09, 0.247785, -0.3538737, 0.045, -0.495
326, 0.06, 0.09, -0.12226872, 0.44234205, 0.036, -0.396
71.4514, 0.089845335, 0.06986904, 0.34383525, -0.41638605, 0.03824412, -0.4206852
37.5, 0, 0, 0.12738, 0.15402, 0, -0.3912, 0, -0.402, 0, -0.3975
7.5, 0, 0, 0.18738, 0.21402, 0, -0.2292, 0, -0.3822, 0, -0.1515
-32.5, -0.1338, 0, 0.277404, 0.16068, 0, -0.15, 0, -0.468, 0, -0.621
-42.5, -0.1938, 0, 0.217404, 0.28068, 0, -0.195, 0, -0.3108, 0, -0.441
```

\* Concrete Precast (small), Precast Concrete cut in section

```
;%TYPE=DRAFTING
90, 0, 0, 0, 0.015, 0.015, 0, -0.03
50, 0, 0, 0, 0.16519, -0.2359158, 0.03, -0.33
355, 0, 0, -0.08151248, 0.2948947, 0.024, -0.264
100.4514, 0.02390867, -0.002091736, 0.2292235, -0.2775907, 0.02549608, -0.2804568
46.1842, 0, 0.08, 0.247785, -0.3538737, 0.045, -0.495
96.6356, 0.0355747, 0.07448268, 0.3438352, -0.416386, 0.03824412, -0.4206852
351.1842, 0, 0.08, 0.3097313, 0.4423421, 0.036, -0.396
21, 0.04, 0.06, 0.16519, -0.2359158, 0.03, -0.33
326, 0.04, 0.06, -0.08151248, 0.2948947, 0.024, -0.264
71.4514, 0.05989689, 0.04657936, 0.2292235, -0.2775907, 0.02549608, -0.2804568
37.5, 0, 0, 0.08492, 0.10268, 0, -0.2608, 0, -0.268, 0, -0.265
7.5, 0, 0, 0.12492, 0.14268, 0, -0.1528, 0, -0.2548, 0, -0.101
-32.5, -0.0892, 0, 0.184936, 0.10712, 0, -0.1, 0, -0.312, 0, -0.414
-42.5, -0.1292, 0, 0.144936, 0.18712, 0, -0.13, 0, -0.2072, 0, -0.294
```

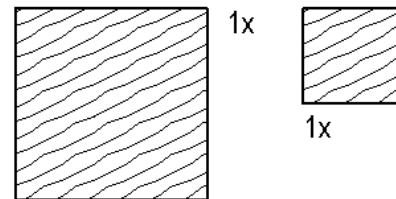
### Wood 1 (material cut only)



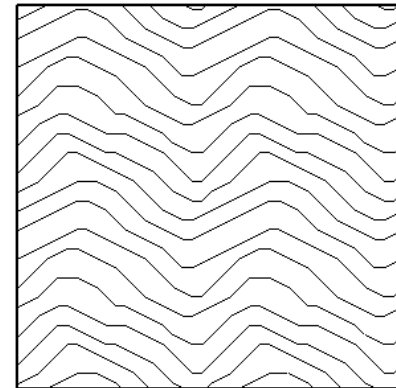
Several wood patterns are provided to allow variations in drafting for clarity. The patterns are provided at only one scale as this works in all three swatch sizes.

For wood in Projection, see below.

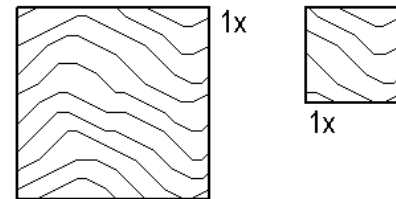
```
* Wood 1
;%TYPE=DRAFTING
216.8699, 0.06664, 0.1666, -0.59976, 0.03332, 0.0833, -0.7497
206.5651, 0.1666, 0.11662, 0.2235174, 0.07450585, 0.1862645, -0.1862645
198.4349, 0.1666, 0.03332, 0.3687848, 0.05268358, 0.1053672, -0.4214683
```



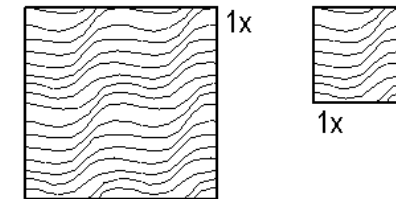
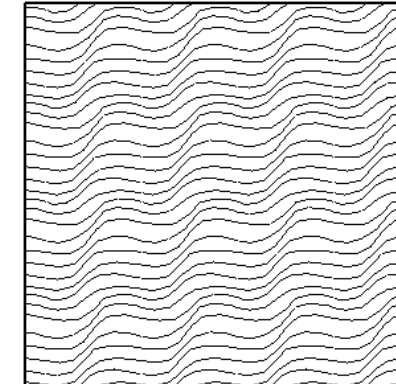
### Wood 2 (material cut only)



```
* Wood 2
;%TYPE=DRAFTING
0, 0.8, 0, 1, 1, 0.05, -0.95
0, 0.1, 0.1, 1, 1, 0.1, -0.9
0, 0.75, 0.15, 1, 1, 0.05, -0.95
0, 0.15, 0.25, 1, 1, 0.05, -0.95
0, 0.75, 0.3, 1, 1, 0.05, -0.95
0, 0.2, 0.35, 1, 1, 0.05, -0.95
0, 0.75, 0.4, 1, 1, 0.05, -0.95
0, 0.2, 0.5, 1, 1, 0.05, -0.55, 0.05, -0.35
0, 0.2, 0.6, 1, 1, 0.1, -0.5, 0.05, -0.35
0, 0.15, 0.75, 1, 1, 0.05, -0.15, 0.05, -0.4, 0.05, -0.3
0, 0.1, 0.85, 1, 1, 0.05, -0.2, 0.1, -0.65
0, 0.75, 0.9, 1, 1, 0.05, -0.95
0, 0.1, 0.95, 1, 1, 0.05, -0.25, 0.05, -0.65
45, 0, 0, 0.7071067812, 0.7071067812, 0.141421, -1.272792562
45, 0.85, 0, 0.7071067812, 0.7071067812, 0.2828427, -1.131370862
45, 0.85, 0.5, 0.7071067812, 0.7071067812, 0.07071, -1.343503562
45, 0, 0.6, 0.7071067812, 0.7071067812, 0.212132, -1.202081562
45, 0.85, 0.6, 0.7071067812, 0.7071067812, 0.353534, -1.060660162
45, 0.85, 0.75, 0.7071067812, 0.7071067812, 0.212132, -1.202081562
315, 0.65, 0.85, 0.7071067812, 0.7071067812, 0.07071, -1.343503562
315, 0.3, 0.05, 0.7071067812, 0.7071067812, 0.141421, -1.272792562
315, 0.35, 0.45, 0.7071067812, 0.7071067812, 0.141421, -1.272792562
315, 0.65, 0.25, 0.7071067812, 0.7071067812, 0.141421, -1.272792562
315, 0.6, 0.65, 0.7071067812, 0.7071067812, 0.141421, -1.272792562
315, 0.65, 0.75, 0.7071067812, 0.7071067812, 0.212132, -1.202081562
315, 0.4, 0.15, 0.7071067812, 0.7071067812, 0.212132, -1.202081562
315, 0.55, 0.2, 0.7071067812, 0.7071067812, 0.212132, -1.202081562
315, 0.4, 0.55, 0.7071067812, 0.7071067812, 0.212132, -1.202081562
315, 0.5, 0.6, 0.7071067812, 0.7071067812, 0.212132, -1.202081562
26.5650512, 0.05, 0.2, 0.894427191, -0.4472135955, 0.11180339, -2.12426458
26.5650512, 0.8, 0.15, 0.894427191, -0.4472135955, 0.4472136, -1.788854377
26.5650512, 0.8, 0.3, 0.894427191, -0.4472135955, 0.4472136, -1.788854377
26.5650512, 0.8, 0.4, 0.894427191, -0.4472135955, 0.447214, -0.67, 0.22361, -0.895243977
26.5650512, 0.9, 0.55, 0.894427191, -0.4472135955, 0.11180339, -2.12426458
26.5650512, 0, 0.9, 0.894427191, -0.4472135955, 0.11180339, -2.12426458
26.5650512, 0.8, 0.9, 0.894427191, -0.4472135955, 0.2236068, -2.012461177
333.4349488, 0.55, 0, 0.894427191, 0.4472135955, 0.2236068, -2.012461177
333.4349488, 0.2, 0.25, 0.894427191, 0.4472135955, 0.2236068, -2.012461177
333.4349488, 0.2, 0.1, 0.894427191, 0.4472135955, 0.11180339, -2.124261177
333.4349488, 0.25, 0.35, 0.894427191, 0.4472135955, 0.3354102, -1.900657777
333.4349488, 0.45, 0.35, 0.894427191, 0.4472135955, 0.2236068, -2.012461177
333.4349488, 0.55, 0.4, 0.894427191, 0.4472135955, 0.2236068, -2.012461177
333.4349488, 0.25, 0.5, 0.894427191, 0.4472135955, 0.11180339, -2.124261177
333.4349488, 0.3, 0.6, 0.894427191, 0.4472135955, 0.11180339, -2.124261177
333.4349488, 0.7, 0.8, 0.894427191, 0.4472135955, 0.11180339, -2.124261177
333.4349488, 0.65, 0.45, 0.894427191, 0.4472135955, 0.11180339, -2.124261177
333.4349488, 0.2, 0.75, 0.894427191, 0.4472135955, 0.3354102, -1.900657777
333.4349488, 0.15, 0.85, 0.894427191, 0.4472135955, 0.2236068, -2.012461177
333.4349488, 0.7, 0.55, 0.894427191, 0.4472135955, 0.1118, -1.0062, 0.1118, -1.006267977
333.4349488, 0.4, 0.75, 0.894427191, 0.4472135955, 0.2236068, -2.012461177
333.4349488, 0.45, 0.85, 0.894427191, 0.4472135955, 0.2236068, -2.012461177
333.4349488, 0.15, 0.95, 0.894427191, 0.4472135955, 0.2236068, -2.012461177
333.4349488, 0.45, 0.95, 0.894427191, 0.4472135955, 0.2236068, -2.012461177
```

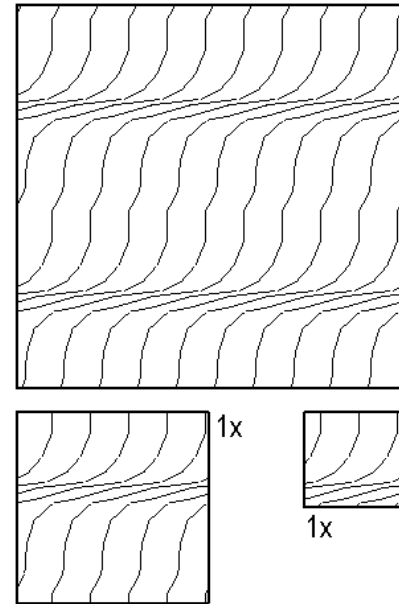


### Wood 3 (material cut only)



```
* Wood 3
;%TYPE=DRAFTING
355.2364, 0, 0.085, -5.522525, 0.0415225, 0.060208, -5.96059
11.3099, 0.06, 0.08, 2.05922, 0.098058, 0.0764855, -2.473025
45, 0.135, 0.095, 0.3535535, 0.3535535, 0.0565685, -0.650538
46.8476, 0.175, 0.135, 10.25912, 0.022798, 0.1096585, -10.8562
12.9946, 0.25, 0.215, -4.60962, 0.0374765, 0.0667085, -6.604124
0, 0.315, 0.5, 0.23, 0.5, 0.125, -0.375
350.5377, 0.44, 0.23, -2.548185, 0.0821995, 0.0608275, -2.980554
354.2894, 0, 0.22, -4.527419, 0.049752, 0.0502495, -4.974689
0, 0.05, 0.215, 0.5, 0.5, 0.075, -0.425
28.3008, 0.125, 0.215, 6.26489, 0.0338645, 0.073824, -7.308587
52.125, 0.19, 0.25, -3.201262, 0.043853, 0.1140175, -5.58686
39.2894, 0.26, 0.34, 3.904967, 0.03518, 0.0710635, -7.035272
6.3402, 0.315, 0.385, 4.03075, 0.055216, 0.090554, -4.437138
348.1113, 0.405, 0.395, -7.158864, 0.0257515, 0.0970825, -9.611161
353.2902, 0, 0.375, 4.527598, 0.0292105, 0.085586, -8.473035
3.3665, 0.085, 0.365, 8.015556, 0.029361, 0.085147, -8.429547
33.6901, 0.17, 0.37, -1.109401, 0.138675, 0.090139, -1.712637
47.4896, 0.245, 0.42, 7.432971, 0.030715, 0.081394, -8.058016
14.9314, 0.3, 0.48, 5.700786, 0.032208, 0.077621, -7.684467
0, 0.375, 0.5, 0.5, 0.5, 0.06, -0.44
347.0054, 0.435, 0.5, 4.60962, 0.0374765, 0.0667085, -6.604124
0, 0.155, 0, 0.5, 0, 0, -0.5
223.1524, 0.225, 0.075, -10.25912, 0.022798, 0.1096585, -10.8562
206.5651, 0.145, 0.5, 0.6708205, 0.223607, 0.0447215, -1.073312
188.1301, 0.105, 0.48, 3.040559, 0.0707105, 0.0707105, -3.464823
156.8014, 0.035, 0.47, 2.691782, 0.065653, 0.038079, -3.769808
26.5651, 0.225, 0.075, 0.6708205, 0.223607, 0.0559015, -1.062132
6.7098, 0.275, 0.1, -4.527598, 0.0292105, 0.085586, -8.473035
349.8753, 0.36, 0.11, 8.63132, 0.017579, 0.1422145, -14.07925
349.6952, 0, 0.03, 3.041053, 0.0447215, 0.0559015, -5.534268
15.5241, 0.055, 0.02, -5.700814, 0.0267645, 0.0934075, -9.247363
42.8789, 0.145, 0.045, -8.845864, 0.026171, 0.095525, -9.456962
34.6952, 0.215, 0.11, 6.103196, 0.031623, 0.079057, -7.826637
9.4623, 0.28, 0.155, 2.548185, 0.0821995, 0.0912415, -2.95014
353.4181, 0.37, 0.17, -8.5586, 0.019104, 0.1308625, -12.95539
351.8699, 0, 0.155, -3.040559, 0.0707105, 0.0707105, -3.464823
11.3099, 0.07, 0.145, 2.05922, 0.098058, 0.0764855, -2.473025
42.5104, 0.145, 0.16, -7.432971, 0.030715, 0.081394, -8.058016
45, 0.205, 0.215, 0.3535535, 0.3535535, 0.091924, -0.615183
17.354, 0.27, 0.28, -6.80067, 0.0298275, 0.0838155, -8.297712
356.6335, 0.35, 0.305, -8.015556, 0.029361, 0.085147, -8.429547
342.8973, 0.435, 0.3, 5.220024, 0.0367605, 0.0680075, -6.732728
351.2538, 0, 0.28, 3.53533, 0.0380145, 0.0657645, -6.510708
14.9314, 0.065, 0.27, 5.700786, 0.032208, 0.077621, -7.684467
32.0054, 0.14, 0.29, -2.914994, 0.053, 0.09434, -4.622651
49.8991, 0.22, 0.34, -8.51467, 0.020129, 0.1241975, -12.29555
15.9454, 0.3, 0.435, -2.060408, 0.0686805, 0.072801, -3.567254
353.991, 0.37, 0.455, 5.02487, 0.026171, 0.095525, -9.456962
336.8014, 0.465, 0.445, 2.691782, 0.065653, 0.038079, -3.769808
350.5377, 0, 0.43, -2.548185, 0.0821995, 0.0608275, -2.980554
10.008, 0.06, 0.42, 5.590095, 0.028964, 0.0863135, -8.545025
37.4054, 0.145, 0.435, 8.200577, 0.0233635, 0.1070045, -10.59346
29.0546, 0.23, 0, 4.030837, 0.0485645, 0.051478, -5.096337
10.7843, 0.275, 0.025, -8.139376, 0.023389, 0.106888, -10.58189
352.875, 0.38, 0.045, -3.53499, 0.0620175, 0.120934, -3.910195
```

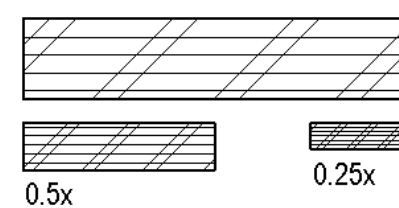
**Wood 4 (material cut only)**



```

* Wood 4
;%TYPE=DRAFTING
6.8428, 0, 0, -17.1172, 0.039715, 0.251794, -24.92756
26.5651, 0.25, 0.03, 1.341641, 0.447214, 0.111803, -2.124265
48.8141, 0.35, 0.08, 9.219065, 0.094072, 0.106301, -10.52384
67.3801, 0.42, 0.16, -7.615385, 0.076923, 0.13, -12.87
90, 0.47, 0.28, 1, 1, 0.16, -0.84
61.3895, 0.47, 0.44, -10.29532, 0.079809, 0.1253, -12.40466
86.1859, 0.53, 0.55, -14.03551, 0.066519, 0.150333, -14.88296
72.8973, 0.54, 0.7, 10.44005, 0.073521, 0.136015, -13.46546
41.9872, 0.58, 0.83, -12.04137, 0.074329, 0.134536, -13.31909
10.3048, 0.68, 0.92, -6.082105, 0.089443, 0.111803, -11.06854
15.9454, 0.79, 0.94, -4.120817, 0.137361, 0.218403, -7.061707
6.8428, 0.2, 0, -17.1172, 0.039715, 0.251794, -24.92756
26.5651, 0.45, 0.03, 1.341641, 0.447214, 0.111803, -2.124265
48.8141, 0.55, 0.08, 9.219065, 0.094072, 0.106301, -10.52384
67.3801, 0.62, 0.16, -7.615385, 0.076923, 0.13, -12.87
90, 0.67, 0.28, 1, 1, 0.16, -0.84
61.3895, 0.67, 0.44, -10.29532, 0.079809, 0.1253, -12.40466
86.1859, 0.73, 0.55, -14.03551, 0.066519, 0.150333, -14.88296
72.8973, 0.74, 0.7, 10.44005, 0.073521, 0.136015, -13.46546
41.9872, 0.78, 0.83, -12.04137, 0.074329, 0.134536, -13.31909
10.3048, 0.88, 0.92, -6.082105, 0.089443, 0.111803, -11.06854
15.9454, 0.99, 0.94, -4.120817, 0.137361, 0.218403, -7.061707
6.8428, 0.4, 0, -17.1172, 0.039715, 0.251794, -24.92756
26.5651, 0.65, 0.03, 1.341641, 0.447214, 0.111803, -2.124265
48.8141, 0.75, 0.08, 9.219065, 0.094072, 0.106301, -10.52384
67.3801, 0.82, 0.16, -7.615385, 0.076923, 0.13, -12.87
90, 0.87, 0.28, 1, 1, 0.16, -0.84
61.3895, 0.87, 0.44, -10.29532, 0.079809, 0.1253, -12.40466
86.1859, 0.93, 0.55, -14.03551, 0.066519, 0.150333, -14.88296
72.8973, 0.94, 0.7, 10.44005, 0.073521, 0.136015, -13.46546
41.9872, 0.98, 0.83, -12.04137, 0.074329, 0.134536, -13.31909
10.3048, 1.08, 0.92, -6.082105, 0.089443, 0.111803, -11.06854
15.9454, 1.19, 0.94, -4.120817, 0.137361, 0.218403, -7.061707
6.8428, 0.6, 0, -17.1172, 0.039715, 0.251794, -24.92756
26.5651, 0.85, 0.03, 1.341641, 0.447214, 0.111803, -2.124265
48.8141, 0.95, 0.08, 9.219065, 0.094072, 0.106301, -10.52384
67.3801, 1.02, 0.16, -7.615385, 0.076923, 0.13, -12.87
90, 1.07, 0.28, 1, 1, 0.16, -0.84
61.3895, 1.07, 0.44, -10.29532, 0.079809, 0.1253, -12.40466
86.1859, 1.13, 0.55, -14.03551, 0.066519, 0.150333, -14.88296
72.8973, 1.14, 0.7, 10.44005, 0.073521, 0.136015, -13.46546
41.9872, 1.18, 0.83, -12.04137, 0.074329, 0.134536, -13.31909
10.3048, 1.28, 0.92, -6.082105, 0.089443, 0.111803, -11.06854
15.9454, 1.39, 0.94, -4.120817, 0.137361, 0.218403, -7.061707
6.8428, 0.8, 0, -17.1172, 0.039715, 0.251794, -24.92756
26.5651, 1.05, 0.03, 1.341641, 0.447214, 0.111803, -2.124265
48.8141, 1.15, 0.08, 9.219065, 0.094072, 0.106301, -10.52384
67.3801, 1.22, 0.16, -7.615385, 0.076923, 0.13, -12.87
90, 1.27, 0.28, 1, 1, 0.16, -0.84
61.3895, 1.27, 0.44, -10.29532, 0.079809, 0.1253, -12.40466
86.1859, 1.33, 0.55, -14.03551, 0.066519, 0.150333, -14.88296
72.8973, 1.34, 0.7, 10.44005, 0.073521, 0.136015, -13.46546
41.9872, 1.38, 0.83, -12.04137, 0.074329, 0.134536, -13.31909
10.3048, 1.48, 0.92, -6.082105, 0.089443, 0.111803, -11.06854
15.9454, 1.59, 0.94, -4.120817, 0.137361, 0.218403, -7.061707
    
```

**Plywood (material cut only)**



```

* Plywood (large), layers with 2 cross slashes
;%TYPE=DRAFTING
0, 0, 0, 0, 0.125
45, 0, 0, 0, 0.6
45, 0.175, 0, 0, 0.6

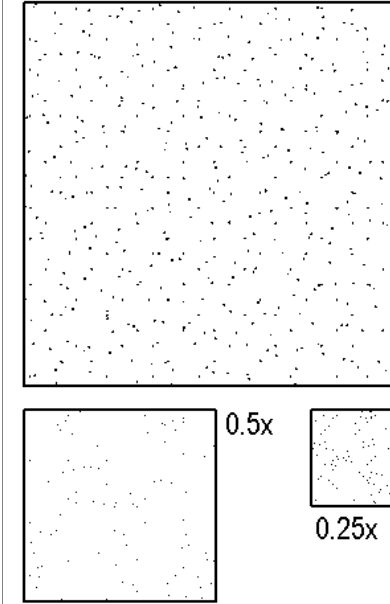
* Plywood (medium), layers with 2 cross slashes
;%TYPE=DRAFTING
0, 0, 0, 0, 0.0625
45, 0, 0, 0, 0.3
45, 0.0875, 0, 0, 0.3

* Plywood (small), layers with 2 cross slashes
;%TYPE=DRAFTING
0, 0, 0, 0, 0.03125
45, 0, 0, 0, 0.15
45, 0.04375, 0, 0, 0.15
    
```

**Gravel (material cut only)**

Still experimenting with patterns

**Sand (material cut and projection)**



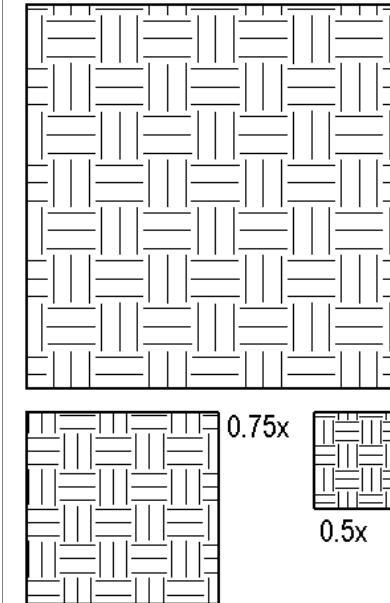
```

* Sand (large), random dot pattern
;%TYPE=DRAFTING
0, 0, 0, 0.32, 0.08, 0, -0.24, 0, -0.24, 0, -0.48, 0, -0.24, 0, -0.16, 0, -0.4
120, 0.12, 0.04, 0.32, 0.08, 0, -0.24, 0, -0.24, 0, -0.48, 0, -0.24, 0, -0.16, 0, -0.4
240, 0.16, 0.2, 0.32, 0.08, 0, -0.24, 0, -0.24, 0, -0.48, 0, -0.24, 0, -0.16, 0, -0.4

* Sand (medium), random dot pattern
;%TYPE=DRAFTING
0, 0, 0, 0.16, 0.04, 0, -0.12, 0, -0.12, 0, -0.24, 0, -0.12, 0, -0.08, 0, -0.2
120, 0.06, 0.02, 0.16, 0.04, 0, -0.12, 0, -0.12, 0, -0.24, 0, -0.12, 0, -0.08, 0, -0.2
240, 0.08, 0.1, 0.16, 0.04, 0, -0.12, 0, -0.12, 0, -0.24, 0, -0.12, 0, -0.08, 0, -0.2

* Sand (small), random dot pattern
;%TYPE=DRAFTING
0, 0, 0, 0.08, 0.02, 0, -0.06, 0, -0.06, 0, -0.12, 0, -0.06, 0, -0.04, 0, -0.1
120, 0.03, 0.01, 0.08, 0.02, 0, -0.06, 0, -0.06, 0, -0.12, 0, -0.06, 0, -0.04, 0, -0.1
240, 0.04, 0.05, 0.08, 0.02, 0, -0.06, 0, -0.06, 0, -0.12, 0, -0.06, 0, -0.04, 0, -0.1
    
```

**Earth (material cut only)**



The earth pattern uses vertical and horizontal lines which do not touch. Note: this pattern is not to be used for fabric or fabric wrapped panels (either in elevation or section). See "Fabric Wrapped Panel" below for the correct pattern to use.

```

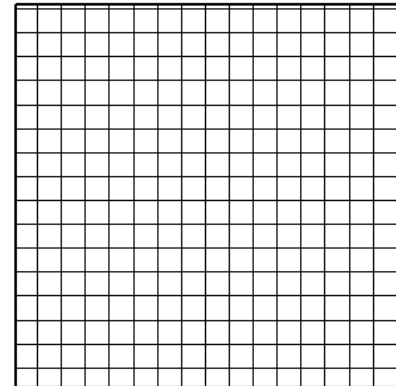
* Earth (large)
;%TYPE=DRAFTING
0, 0, 0, 0.25, 0.25, 0.25, -0.25
0, 0, 0.09375, 0.25, 0.25, 0.25, -0.25
0, 0, 0.1875, 0.25, 0.25, 0.25, -0.25
90, 0.03125, 0.21875, 0.25, 0.25, 0.25, -0.25
90, 0.125, 0.21875, 0.25, 0.25, 0.25, -0.25
90, 0.21875, 0.21875, 0.25, 0.25, 0.25, -0.25

* Earth (medium)
;%TYPE=DRAFTING
0, 0, 0, 0.125, 0.125, 0.125, -0.125
0, 0, 0.046875, 0.125, 0.125, 0.125, -0.125
0, 0, 0.09375, 0.125, 0.125, 0.125, -0.125
90, 0.015625, 0.109375, 0.125, 0.125, 0.125, -0.125
90, 0.0625, 0.109375, 0.125, 0.125, 0.125, -0.125
90, 0.109375, 0.109375, 0.125, 0.125, 0.125, -0.125

* Earth (small)
;%TYPE=DRAFTING
0, 0, 0, 0.0625, 0.0625, 0.0625, -0.0625
0, 0, 0.0234375, 0.0625, 0.0625, 0.0625, -0.0625
0, 0, 0.046875, 0.0625, 0.0625, 0.0625, -0.0625
90, 0.0078125, 0.0546875, 0.0625, 0.0625, 0.0625, -0.0625
90, 0.03125, 0.0546875, 0.0625, 0.0625, 0.0625, -0.0625
90, 0.0546875, 0.0546875, 0.0625, 0.0625, 0.0625, -0.0625
    
```



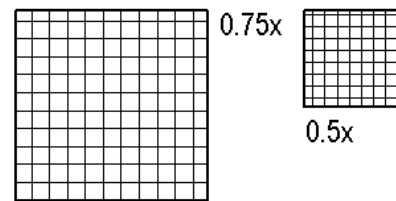
**Insulation – Rigid (material cut only)**



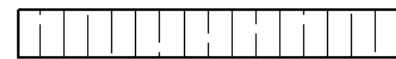
```
* Insulation - Rigid (large)
;%TYPE=DRAFTING
0, 0, 0, 0, 0.125
90, 0, 0, 0, 0.125
```

```
* Insulation - Rigid (medium)
;%TYPE=DRAFTING
0, 0, 0, 0, 0.09375
90, 0, 0, 0, 0.09375
```

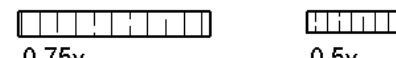
```
* Insulation - Rigid (small)
;%TYPE=DRAFTING
0, 0, 0, 0, 0.0625
90, 0, 0, 0, 0.0625
```



**Acoustic Tile (material cut only)**



```
* Acoustic Tile (large)
;%TYPE=DRAFTING
90, 0, 0, 0.25, 0.125, 0.5, -0.05
```

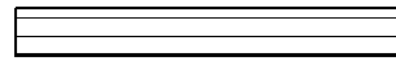


```
* Acoustic Tile (medium)
;%TYPE=DRAFTING
90, 0, 0, 0.1875, 0.09375, 0.375, -0.0375
```

```
* Acoustic Tile (small),
;%TYPE=DRAFTING
90, 0, 0, 0.125, 0.0625, 0.25, -0.025
```

When applied to a narrow band, this pattern simulates a random dash on approximately every second vertical line.

**Glass (material cut only)**



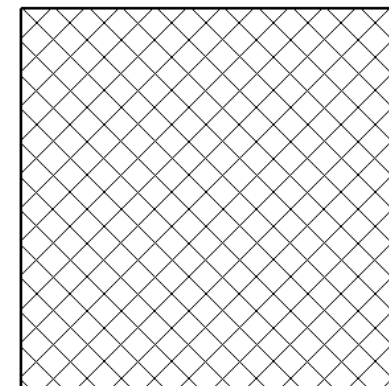
```
* Glass (large)
;%TYPE=DRAFTING
0, 0, 0, 0, 0.09375
```



```
* Glass (medium)
;%TYPE=DRAFTING
0, 0, 0, 0, 0.0703125
```

```
* Glass (small)
;%TYPE=DRAFTING
0, 0, 0, 0, 0.046875
```

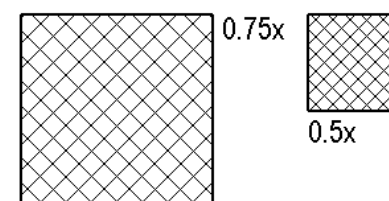
**Fabric Wrapped Panel (material cut only)**



```
* Fabric Wrapped Panel (large),
;%TYPE=DRAFTING
45, 0, 0, 0, 0.125
-45, 0, 0, 0, 0.125
```

```
* Fabric Wrapped Panel (medium),
;%TYPE=DRAFTING
45, 0, 0, 0, 0.09375
-45, 0, 0, 0, 0.09375
```

```
* Fabric Wrapped Panel (small),
;%TYPE=DRAFTING
45, 0, 0, 0, 0.0625
-45, 0, 0, 0, 0.0625
```

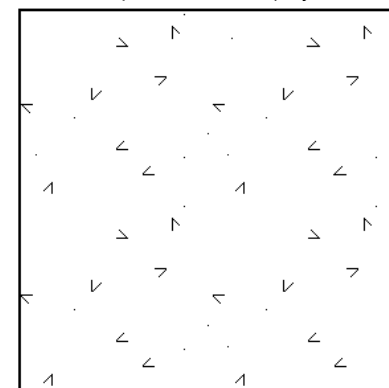


Note: this is the same pattern as CMU.  
Is this intended for the panel in section, elevation or both?

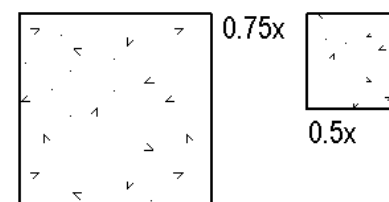
**Materials in Cut and Projection**

All patterns are "Orient to View"

**Terrazzo (material cut and projection)**

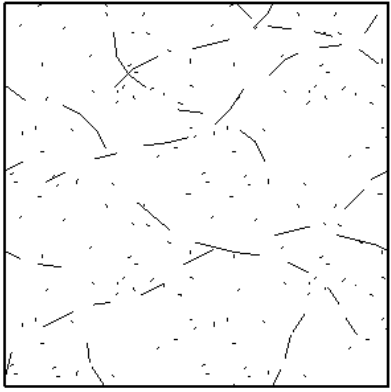
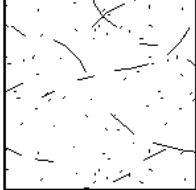
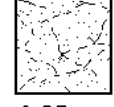


```
* Terrazzo (large)
;%TYPE=DRAFTING
0.000000, -0.022713, 0.019174, 0.000000, 1.000000, 0.000000, -1.000000
180.000000, 0.455170, 0.046485, 0.000000, 1.000000, 0.062500, -0.937500
45.000000, 0.392670, 0.046485, 0.707107, 0.707107, 0.062500, -1.351714
315.000000, 0.407452, -0.374781, 0.707107, 0.707107, 0.062500, -1.351714
180.000000, 0.451646, -0.418975, 0.000000, 1.000000, 0.062500, -0.937500
45.000000, -0.467905, -0.086372, 0.707107, 0.707107, 0.062500, -1.351714
180.000000, -0.405405, -0.086372, 0.000000, 1.000000, 0.062500, -0.937500
90.000000, -0.312500, -0.375000, 0.000000, 1.000000, 0.062500, -0.937500
315.000000, -0.312500, -0.312500, 0.707107, 0.707107, 0.062500, -1.351714
270.000000, 0.062500, -0.125000, 0.000000, 1.000000, 0.062500, -0.937500
45.000000, 0.018306, -0.169194, 0.707107, 0.707107, 0.062500, -1.351714
0.000000, -0.104386, 0.281976, 0.000000, 1.000000, 0.062500, -0.937500
135.000000, -0.060193, 0.237782, 0.707107, 0.707107, 0.062500, -1.351714
90.000000, 0.268483, 0.303261, 0.000000, 1.000000, 0.062500, -0.937500
225.000000, 0.312676, 0.347455, 0.707107, 0.707107, 0.062500, -1.351714
225.000000, -0.340885, 0.420437, 0.707107, 0.707107, 0.062500, -1.351714
0.000000, -0.403384, 0.420437, 0.000000, 1.000000, 0.062500, -0.937500
0.000000, 0.178948, 0.208088, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, -0.250000, 0.000000, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, -0.125000, -0.187500, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, 0.000000, -0.375000, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, 0.312500, -0.187500, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, 0.438189, 0.224415, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, -0.437500, 0.187500, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, 0.312500, 0.437500, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, 0.063220, 0.357937, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, 0.181798, -0.010652, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, -0.187500, 0.375000, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, -0.125000, 0.125000, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, -0.250000, -0.250000, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, 0.250000, -0.375000, 0.000000, 1.000000, 0.000000, -1.000000
0.000000, -0.437500, -0.312500, 0.000000, 1.000000, 0.000000, -1.000000
```

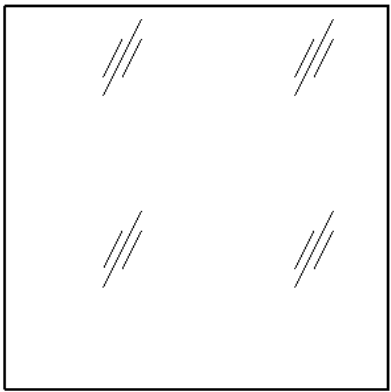
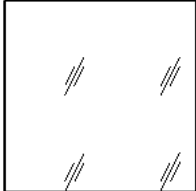



Still to make pattern for 0.75 and 0.5

**Stone** (material cut and projection) Need pattern

**Glass (reflection)** (projection only)

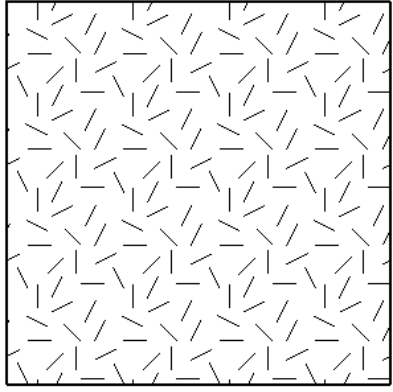
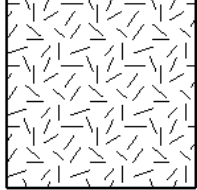

```

* Glass Reflect (large)
;%TYPE=DRAFTING
65, 0.6, 0.6, 93.16458854, 0.02, 0.22, -95.17245416
65, 0.5, 0.49, 93.16458854, 0.02, 0.44, -94.95245416
65, 0.5, 0.6, 93.16458854, 0.02, 0.22, -95.17245416
65, 0.6, 1.6, 93.16458854, 0.02, 0.22, -95.17245416
65, 0.5, 1.49, 93.16458854, 0.02, 0.44, -94.95245416
65, 0.5, 1.6, 93.16458854, 0.02, 0.22, -95.17245416

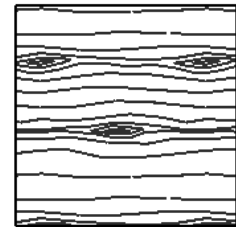
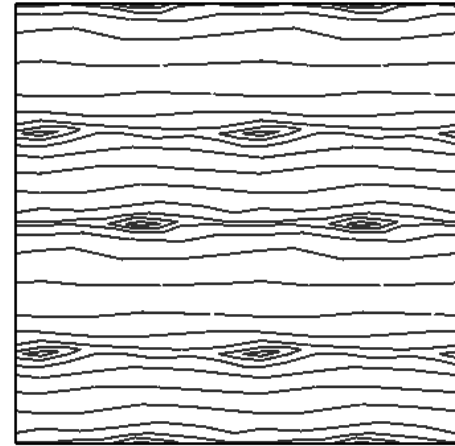
* Glass Reflect (medium)
;%TYPE=DRAFTING
65, 0.3, 0.3, 46.5822942693, 0.01, 0.11, -47.5862270785
65, 0.25, 0.245, 46.5822942693, 0.01, 0.22, -47.4762270785
65, 0.25, 0.3, 46.5822942693, 0.01, 0.11, -47.5862270785
65, 0.3, 0.8, 46.5822942693, 0.01, 0.11, -47.5862270785
65, 0.25, 0.745, 46.5822942693, 0.01, 0.22, -47.4762270785
65, 0.25, 0.8, 46.5822942693, 0.01, 0.11, -47.5862270785

* Glass Reflect (small)
;%TYPE=DRAFTING
65, 0.15, 0.15, 23.29114713, 0.005, 0.055, -23.79311354
65, 0.125, 0.1225, 23.29114713, 0.005, 0.11, -23.73811354
65, 0.125, 0.15, 23.29114713, 0.005, 0.055, -23.79311354
65, 0.15, 0.4, 23.29114713, 0.005, 0.055, -23.79311354
65, 0.125, 0.3725, 23.29114713, 0.005, 0.11, -23.73811354
65, 0.125, 0.4, 23.29114713, 0.005, 0.055, -23.79311354
    
```

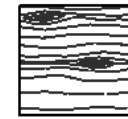
**Solid Surface** (projection only) Need pattern

### Wood (Projection) (projection only)



0.75x



0.5x

\* Wood (elevation)  
;%TYPE=DRAFTING

349.6952,	0.31,	0.77,	6.082105,	0.089443,	0.111803,	-11.06854
0,	0.42,	0.75,	1,	1,	0.11,	-0.89
18.4349,	0.53,	0.75,	2.213594,	0.094868,	0.316228,	-3.067409
172.875,	0.62,	0.78,	-7.06998,	0.124035,	0.080623,	-7.981635
174.8056,	0.54,	0.79,	-10.04947,	0.090536,	0.110454,	-10.93491
194.0362,	0.43,	0.8,	3.152963,	0.242536,	0.123693,	-3.999412
9.4623,	0.39,	0.77,	5.096369,	0.164399,	0.060828,	-6.021935
353.6598,	0.45,	0.78,	-8.061501,	0.110432,	0.090554,	-8.964831
185.7106,	0.54,	0.77,	9.054838,	0.099504,	0.100499,	-9.949377
168.6901,	0.44,	0.76,	-4.118439,	0.196116,	0.05099,	-5.048029
354.8056,	0.22,	0.76,	-10.04947,	0.090536,	0.110454,	-10.93491
348.6901,	0.33,	0.75,	-4.118439,	0.196116,	0.10198,	-4.997039
0,	0.43,	0.73,	1,	1,	0.12,	-0.88
20.556,	0.55,	0.73,	5.383893,	0.117041,	0.08544,	-8.458564
3.8141,	0.63,	0.76,	14.03551,	0.066519,	0.150333,	-14.88296
354.8056,	0.78,	0.77,	-10.04947,	0.090536,	0.110454,	-10.93491
0,	0.89,	0.76,	1,	1,	0.11,	-0.89
5.1944,	0,	0.76,	10.04947,	0.090536,	0.110454,	-10.93491
354.8056,	0.11,	0.77,	-10.04947,	0.090536,	0.110454,	-10.93491
0,	0,	0.78,	1,	1,	0.06,	-0.94
5.1944,	0.06,	0.78,	10.04947,	0.090536,	0.110454,	-10.93491
0,	0.17,	0.79,	1,	1,	0.1,	-0.9
10.3048,	0.27,	0.79,	-6.082105,	0.089443,	0.111803,	-11.06854
5.1944,	0.38,	0.81,	10.04947,	0.090536,	0.110454,	-10.93491
354.8056,	0.49,	0.82,	-10.04947,	0.090536,	0.110454,	-10.93491
354.8056,	0.6,	0.81,	-10.04947,	0.090536,	0.110454,	-10.93491
351.8699,	0.71,	0.8,	-6.081118,	0.141421,	0.141421,	-6.929646
0,	0.85,	0.78,	1,	1,	0.15,	-0.85
347.4712,	0.81,	0.18,	5.097866,	0.108465,	0.092195,	-9.127349
354.2894,	0.9,	0.16,	-9.054838,	0.099504,	0.100499,	-9.949377
8.1301,	0.81,	0.18,	6.081118,	0.141421,	0.070711,	-7.000357
9.4623,	0.88,	0.19,	5.096369,	0.164399,	0.121655,	-5.961107
0,	0,	0.21,	1,	1,	0.12,	-0.88
350.5377,	0.12,	0.21,	-5.096369,	0.164399,	0.060828,	-6.021935
201.8014,	0.18,	0.2,	-3.156821,	0.185695,	0.053852,	-5.331313
192.9946,	0.13,	0.18,	-9.21924,	0.074953,	0.133417,	-13.20825
352.875,	0.92,	0.18,	-7.06998,	0.124035,	0.080623,	-7.981635
7.125,	0.92,	0.18,	7.06998,	0.124035,	0.080623,	-7.981635
0,	0,	0.19,	1,	1,	0.08,	-0.92
194.0362,	0.08,	0.19,	3.152963,	0.242536,	0.082462,	-4.040644
356.6335,	0.22,	0.22,	-16.03111,	0.058722,	0.170294,	-16.85909
357.7094,	0.39,	0.21,	-24.02079,	0.039968,	0.2502,	-24.76979

3.1798,	0.64,	0.2,	17.0293,	0.05547,	0.180278,	-17.84748
9.4623,	0.82,	0.21,	5.096369,	0.164399,	0.182483,	-5.90028
10.3048,	0,	0.12,	-6.082105,	0.089443,	0.111803,	-11.06854
15.9454,	0.11,	0.14,	-4.120817,	0.137361,	0.145602,	-7.134508
0,	0.25,	0.18,	1,	1,	0.13,	-0.87
351.8699,	0.38,	0.18,	-6.081118,	0.141421,	0.141421,	-6.929646
3.5763,	0.52,	0.16,	15.03317,	0.062378,	0.160312,	-15.87091
351.2538,	0.68,	0.17,	7.070659,	0.070629,	0.131529,	-13.02142
345.9638,	0.81,	0.15,	-3.152963,	0.242536,	0.123693,	-3.999412
0,	0.93,	0.12,	1,	1,	0.07,	-0.93
174.8056,	0.22,	0.22,	-10.04947,	0.090536,	0.220907,	-10.82445
355.2364,	0,	0.28,	-11.04505,	0.083045,	0.240832,	-11.80076
0,	0.24,	0.26,	1,	1,	0.23,	-0.77
4.0856,	0.47,	0.26,	13.03821,	0.071247,	0.280713,	-13.75496
0,	0.75,	0.28,	1,	1,	0.25,	-0.75
7.125,	0,	0.07,	7.06998,	0.124035,	0.241868,	-7.82039
6.3402,	0.24,	0.1,	8.061501,	0.110432,	0.181108,	-8.874277
357.5104,	0.42,	0.12,	-22.02267,	0.043437,	0.230217,	-22.79151
353.4802,	0.65,	0.11,	-26.17249,	0.028387,	0.352278,	-34.87555
3.0128,	0,	0.72,	18.02768,	0.052559,	0.190263,	-18.83603
351.8699,	0.19,	0.73,	-6.081118,	0.141421,	0.212132,	-6.858936
357.6141,	0.4,	0.7,	-23.02169,	0.041631,	0.240208,	-23.78062
10.6197,	0.64,	0.69,	-11.18017,	0.06143,	0.162788,	-16.11603
0,	0.8,	0.72,	1,	1,	0.2,	-0.8
356.8202,	0,	0.84,	-17.0293,	0.05547,	0.180278,	-17.84748
6.009,	0.18,	0.83,	-10.04974,	0.052342,	0.19105,	-18.91392
6.7098,	0.37,	0.85,	-9.055197,	0.058421,	0.171172,	-16.94607
354.2894,	0.54,	0.87,	-9.054838,	0.099504,	0.200998,	-9.848878
347.9052,	0.74,	0.85,	-9.21928,	0.069843,	0.143178,	-14.17464
9.4623,	0.88,	0.82,	5.096369,	0.164399,	0.121655,	-5.961107
3.8141,	0,	0.65,	14.03551,	0.066519,	0.150333,	-14.88296
347.1957,	0.15,	0.66,	-13.34159,	0.044324,	0.22561,	-22.33542
0,	0.37,	0.61,	1,	1,	0.25,	-0.75
5.4403,	0.62,	0.61,	-11.04526,	0.047405,	0.21095,	-20.88407
6.7098,	0.83,	0.63,	-9.055197,	0.058421,	0.171172,	-16.94607
0,	0,	0.91,	1,	1,	0.17,	-0.83
8.1301,	0.17,	0.91,	6.081118,	0.141421,	0.282843,	-6.788225
357.6141,	0.45,	0.95,	-23.02169,	0.041631,	0.240208,	-23.78062
354.4725,	0.69,	0.94,	21.095,	0.032108,	0.311448,	-30.83338
6.8428,	0,	0,	-17.1172,	0.039715,	0.251794,	-24.92756
0,	0.25,	0.03,	1,	1,	0.28,	-0.72
356.3478,	0.53,	0.03,	-31.06444,	0.021233,	0.470956,	-46.62469
0,	0,	0.35,	1,	1,	0.24,	-0.76
4.7636,	0.24,	0.35,	11.04505,	0.083045,	0.240832,	-11.80076
358.1524,	0.48,	0.37,	-30.01665,	0.032241,	0.310161,	-30.70596
357.2737,	0.79,	0.36,	-20.02493,	0.047565,	0.210238,	-20.81356
354.8056,	0,	0.51,	-10.04947,	0.090536,	0.220907,	-10.82445
0,	0.22,	0.49,	1,	1,	0.32,	-0.68
1.9092,	0.54,	0.49,	29.01722,	0.033315,	0.300167,	-29.71649
3.5763,	0.84,	0.5,	15.03317,	0.062378,	0.160312,	-15.87091

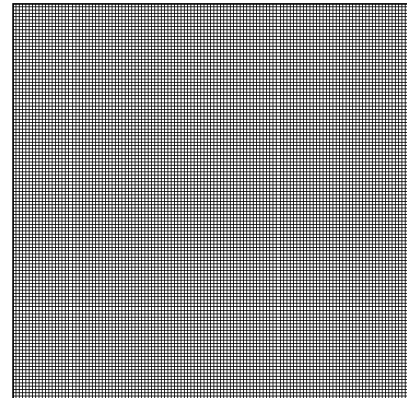
**Model Patterns**

Need Metric Set

Grid Patterns

These patterns are for application on surfaces to represent physical materials at real scale.

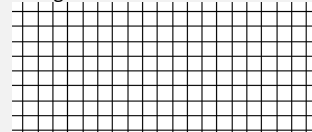
**Stack 01 X 01**



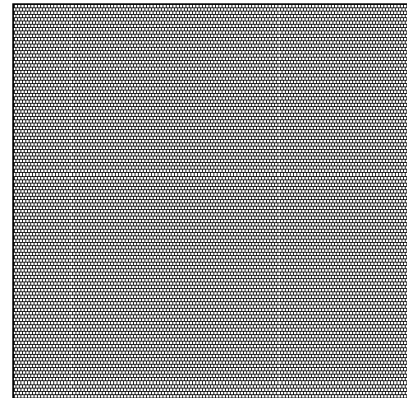
```
* Stack 01 x 01
;%TYPE=MODEL
0, 0, 0, 0, 1
90, 0, 0, 0, 1
```

1" x 1" patterns

Enlarged view:

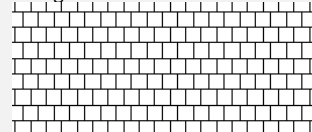


**Running 01 x 01**

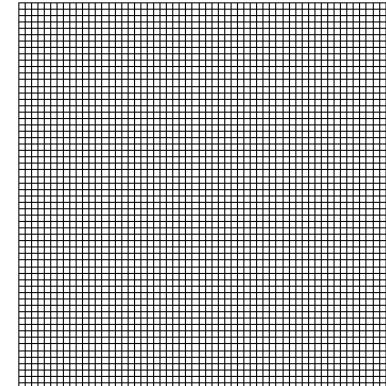


```
* Running 01 x 01
;%TYPE=MODEL
0, 0, 0, 0, 1
90, 0, 0, 1, 0.5, 1, -1
```

Enlarged view:



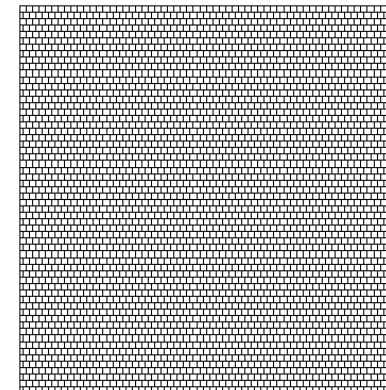
**Stack 02 x 02**



```
* Stack 02 x 02
;%TYPE=MODEL
0, 0, 0, 0, 2
90, 0, 0, 0, 2
```

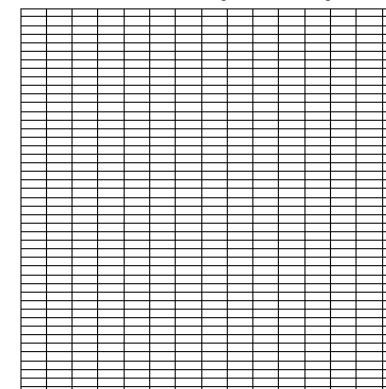
2" x 2" patterns

**Running 02 x 02**



```
* Running 02 x 02
;%TYPE=MODEL
0, 0, 0, 0, 2
90, 0, 0, 2, 1, 2, -2
```

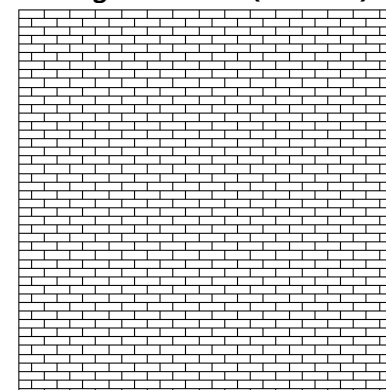
**Stack 02.667 x 08 (std brick)**



```
* Stack 02.667 x 08 (std brick)
;%TYPE=MODEL
0, 0, 0, 0, 2.667
90, 0, 0, 0, 8
```

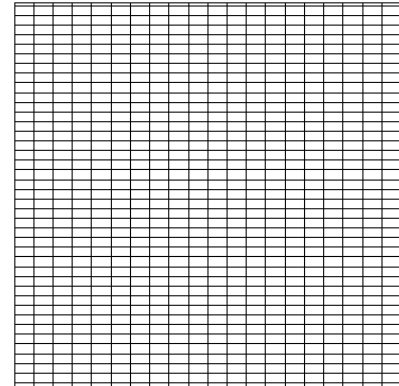
US standard brick

**Running 02.667 x 08 (std brick)**



```
* Running 02.667 x 08 (std brick)
;%TYPE=MODEL
0, 0, 0, 0, 2.667
90, 0, 0, 2.667, 4, 2.667, -2.667
```

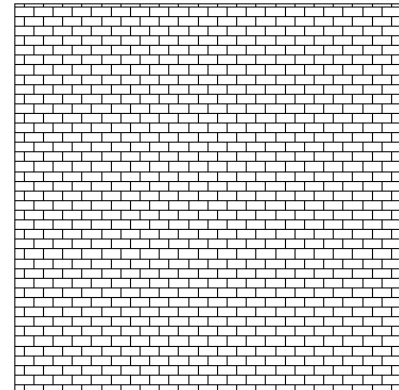
**Stack 03 x 06**



```
* Stack 03 x 06
;%TYPE=MODEL
0, 0, 0, 0, 3
90, 0, 0, 0, 6
```

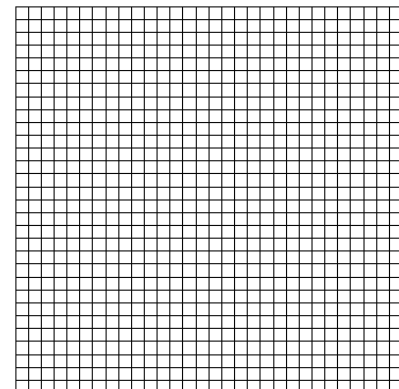
3" x 6" patterns

**Running 03 x 06**



```
* Running 03 x 06
;%TYPE=MODEL
0, 0, 0, 0, 3
90, 0, 0, 3, 3, 3, -3
```

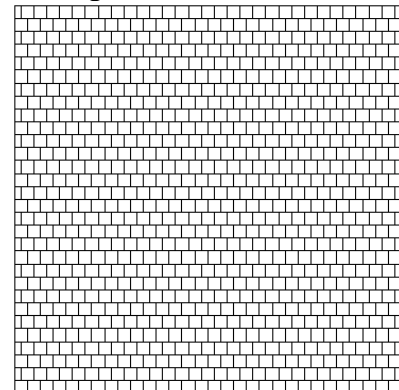
**Stack 04 x 04**



```
* Stack 04 x 04
;%TYPE=MODEL
0, 0, 0, 0, 4
90, 0, 0, 0, 4
```

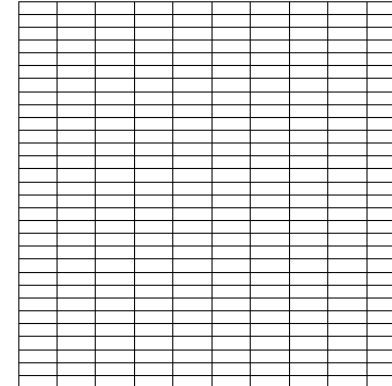
4" x 4" patterns

**Running 04 x 04**



```
* Running 04 x 04
;%TYPE=MODEL
0, 0, 0, 0, 4
90, 0, 0, 4, 2, 4, -4
```

**Stack 04 x 12 (Utility Brick)**

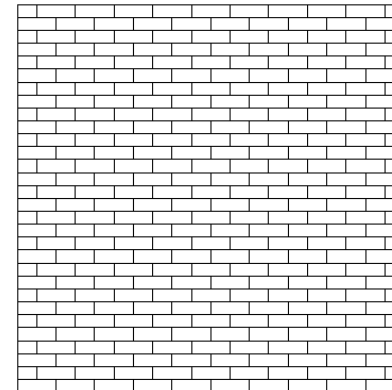


```
* Stack 04 x 12 (utility brick)
;%TYPE=MODEL
0, 0, 0, 0, 4
90, 0, 0, 0, 12
```

US utility brick

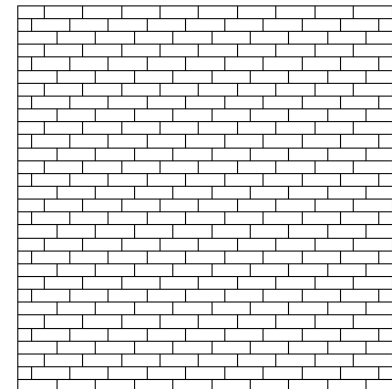
For US Utility Brick in 1/3 bond, see below.

**Running 04 x 12 (Utility Brick)**



```
* Running 04 x 12 (utility brick)
;%TYPE=MODEL
0, 0, 0, 0, 4
90, 0, 0, 4, 6, 4, -4
```

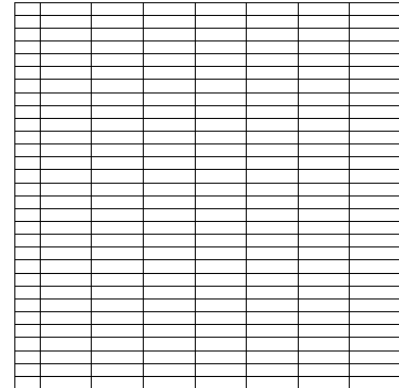
**Running 04 x 12 (Utility Brick 1/3)**



```
* Running 04 x 12 (utility brick 1/3)
;%TYPE=MODEL
0, 0, 0, 0, 4
90, 0, 0, 4, -4, 4, -8
```

US utility brick in 1/3 bond

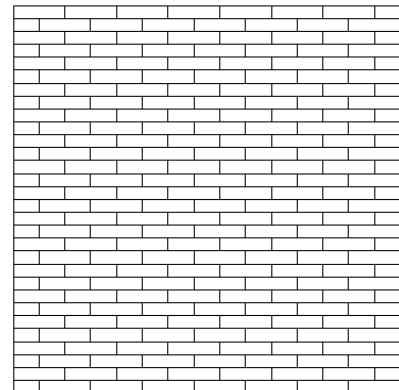
**Stack 04 x 16**



```
* Stack 04 x 16
;%TYPE=MODEL
0, 0, 0, 0, 4
90, 0, 0, 0, 16
```

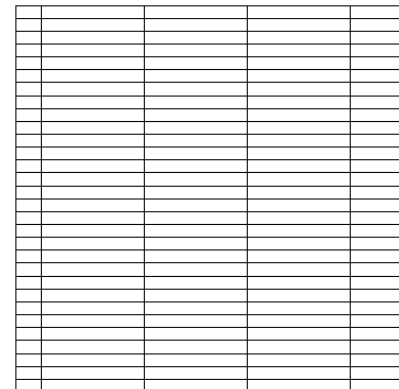
4" x 16" patterns

**Running 04 x 16**



```
* Running 04 x 16
;%TYPE=MODEL
0, 0, 0, 0, 4
90, 0, 0, 4, 8, 4, -4
```

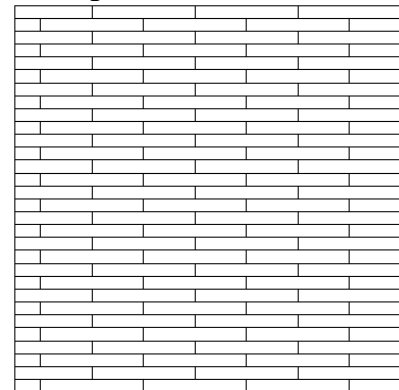
**Stack 04 x 32**



```
* Stack 04 x 32
;%TYPE=MODEL
0, 0, 0, 0, 4
90, 0, 0, 0, 32
```

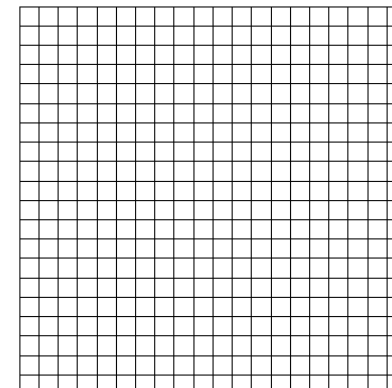
4" x 32" patterns

**Running 04 x 32**



```
* Running 04 x 32
;%TYPE=MODEL
0, 0, 0, 0, 4
90, 0, 0, 4, 16, 4, -4
```

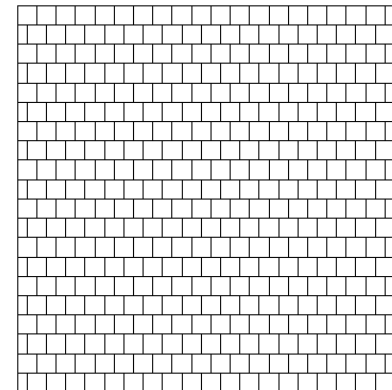
**Stack 06 x 06**



```
* Stack 06 x 06
;%TYPE=MODEL
0, 0, 0, 0, 6
90, 0, 0, 0, 6
```

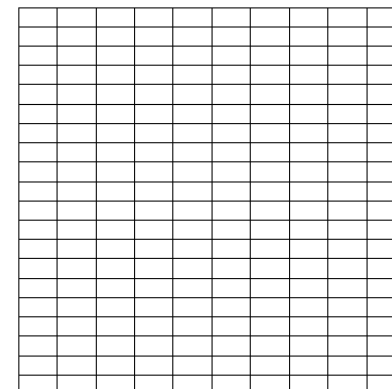
6" x 6" patterns

**Running 06 x 06**



```
* Running 06 x 06
;%TYPE=MODEL
0, 0, 0, 0, 6
90, 0, 0, 6, 3, 6, -6
```

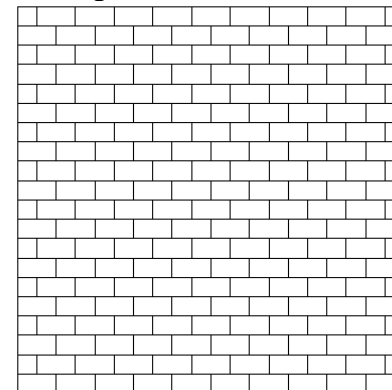
**Stack 06 x 12**



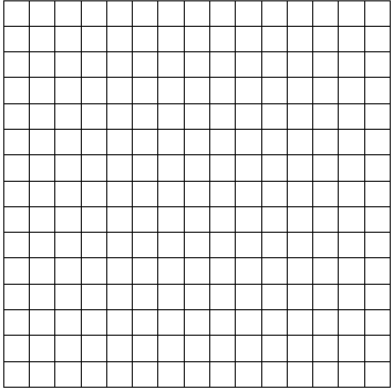
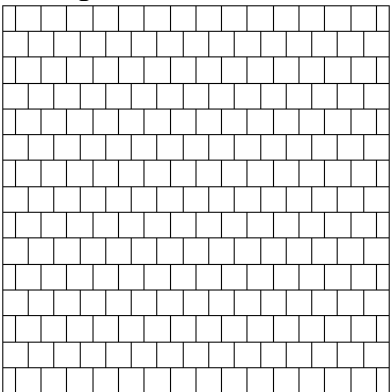
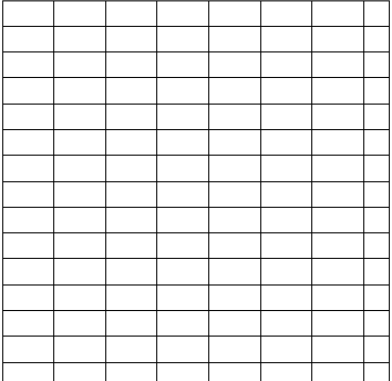
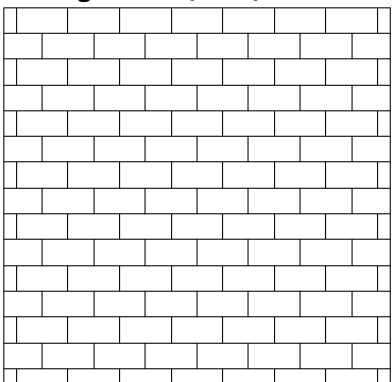
```
* Stack 06 x 12
;%TYPE=MODEL
0, 0, 0, 0, 6
90, 0, 0, 0, 12
```

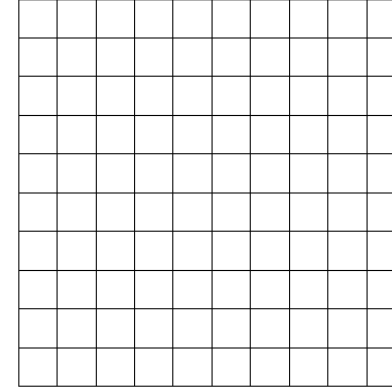
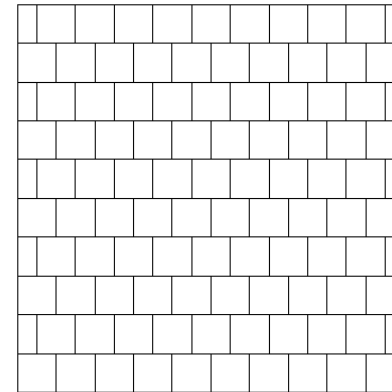
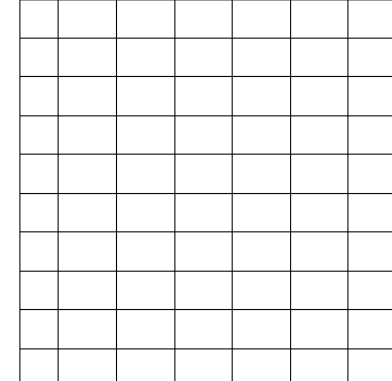
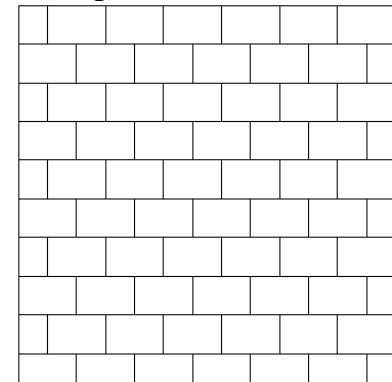
6" x 12" patterns

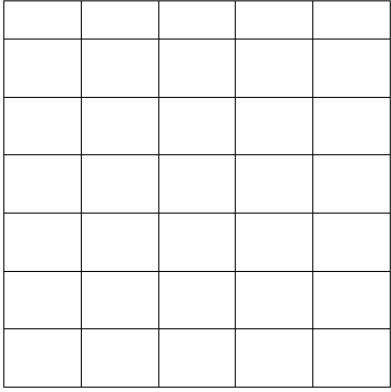
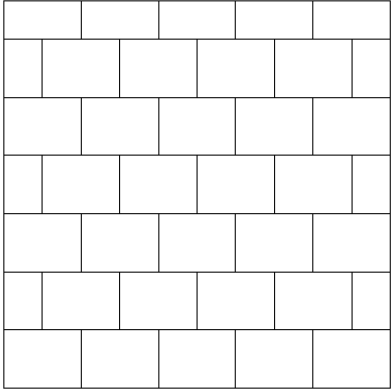
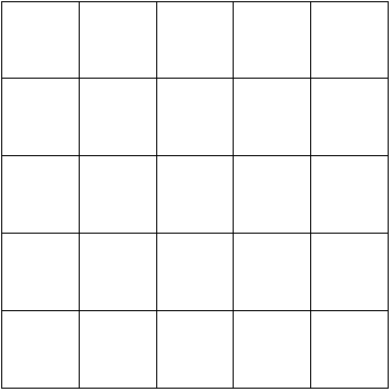
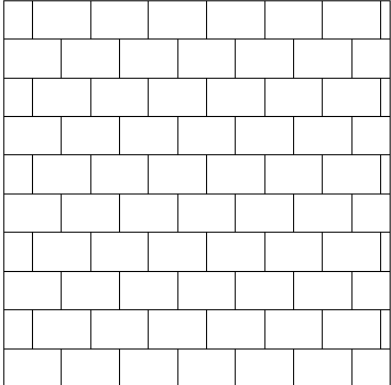
**Running 06 x 12**

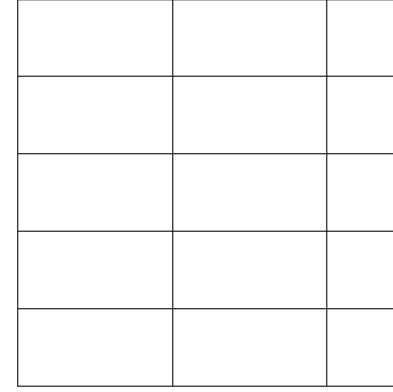
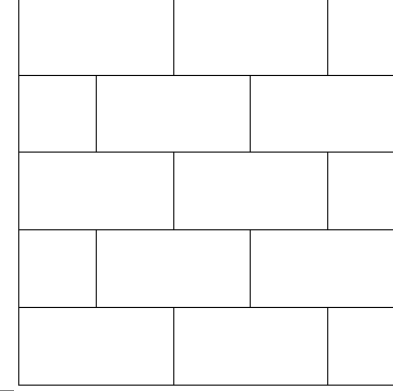
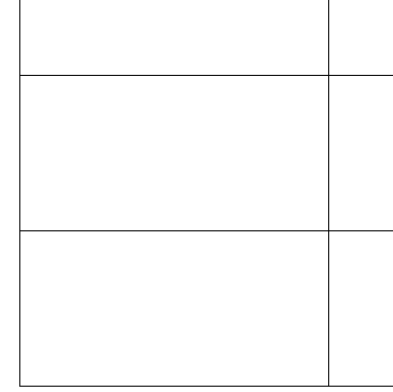
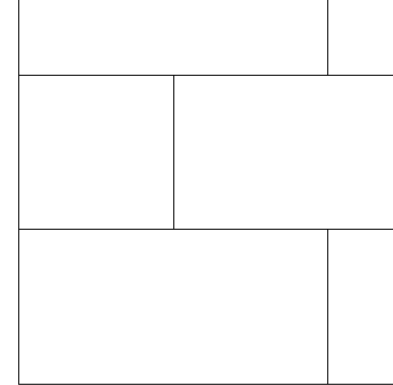


```
* Running 06 x 12
;%TYPE=MODEL
0, 0, 0, 0, 6
90, 0, 0, 6, 6, 6, -6
```

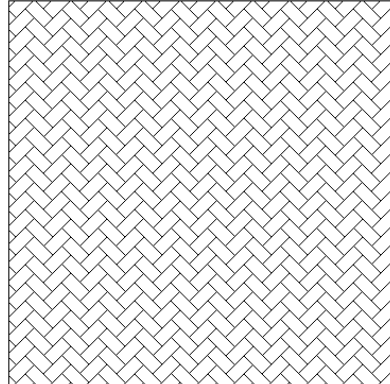
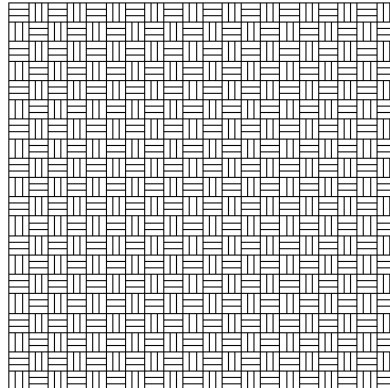


<p><b>Stack 08 x 08</b></p> 	<pre>* Running 08 x 08 ;%TYPE=MODEL 0, 0, 0, 0, 8 90, 0, 0, 0, 8</pre>	<p>8" x 8" patterns</p>
<p><b>Running 08 x 08</b></p> 	<pre>* Running 08 x 08 ;%TYPE=MODEL 0, 0, 0, 0, 8 90, 0, 0, 8, 4, 8, -8</pre>	
<p><b>Stack 08 x 16 (CMU)</b></p> 	<pre>* Stack 08 x 16 (CMU) ;%TYPE=MODEL 0, 0, 0, 0, 8 90, 0, 0, 0, 16</pre>	<p>8" x 16" patterns, including standard concrete masonry units</p>
<p><b>Running 08 x 16 (CMU)</b></p> 	<pre>* Running 08 x 16 (CMU) ;%TYPE=MODEL 0, 0, 0, 0, 8 90, 0, 0, 8, 8, 8, -8</pre>	

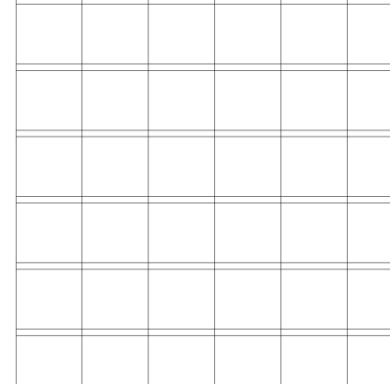

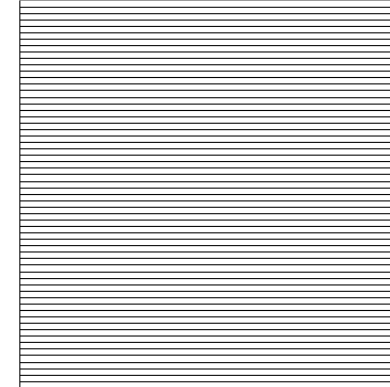
<p><b>Stack 12 x 12</b></p> 	<pre>* Stack 12 x 12 ;%TYPE=MODEL 0, 0, 0, 0, 12 90, 0, 0, 0, 12</pre>	<p>12" x 12" patterns</p>
<p><b>Running 12 x 12</b></p> 	<pre>* Running 12 x 12 ;%TYPE=MODEL 0, 0, 0, 0, 12 90, 0, 0, 12, 6, 12, -12</pre>	
<p><b>Stack 12 x 18</b></p> 	<pre>* Stack 12 x 18 ;%TYPE=MODEL 0, 0, 0, 0, 12 90, 0, 0, 0, 18</pre>	<p>12" x 18" patterns</p>
<p><b>Running 12 x 18</b></p> 	<pre>* Running 12 x 18 ;%TYPE=MODEL 0, 0, 0, 0, 12 90, 0, 0, 12, 9, 12, -12</pre>	

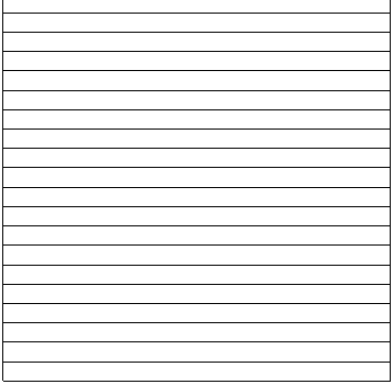
<p><b>Stack 18 x 24</b></p> 	<pre>* Running 18 x 24 ;%TYPE=MODEL 0, 0, 0, 0, 18 90, 0, 0, 0, 24</pre>	<p>18" x 24" patterns</p>
<p><b>Running 18 x 24</b></p> 	<pre>* Running 18 x 24 ;%TYPE=MODEL 0, 0, 0, 0, 18 90, 0, 0, 18, 12, 18, -18</pre>	
<p><b>Stack 24 x 24</b></p> 	<pre>* Stack 24 x 24 ;%TYPE=MODEL 0, 0, 0, 0, 24 90, 0, 0, 0, 24</pre>	<p>24" x 24" patterns</p>
<p><b>Running 24 x 24</b></p> 	<pre>* Running 24 x 24 ;%TYPE=MODEL 0, 0, 0, 0, 24 90, 0, 0, 24, 12, 24, -24</pre>	

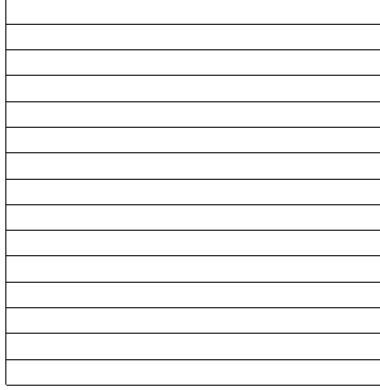
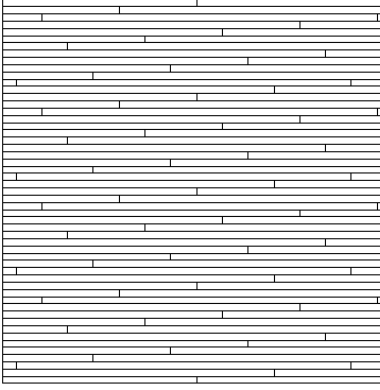
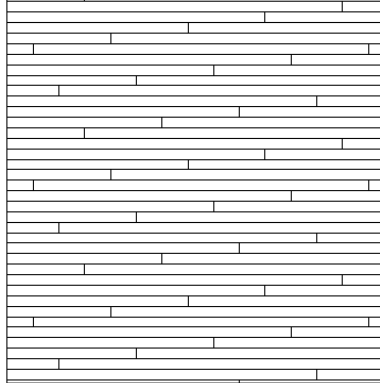
<p><b>Stack 24 x 48</b></p> 	<pre>* Stack 24 x 48 ;%TYPE=MODEL 0, 0, 0, 0, 24 90, 0, 0, 0, 48</pre>	<p>24" x 48" patterns</p>
<p><b>Running 24 x 48</b></p> 	<pre>* Running 24 x 48 ;%TYPE=MODEL 0, 0, 0, 0, 24 90, 0, 0, 24, 24, 24, -24</pre>	
<p><b>Stack 48 x 96</b></p> 	<pre>* Stack 48 x 96 ;%TYPE=MODEL 0, 0, 0, 0, 48 90, 0, 0, 0, 96</pre>	<p>48" x 96" patterns</p>
<p><b>Running 48 x 96</b></p> 	<pre>* Running 48 x 96 ;%TYPE=MODEL 0, 0, 0, 0, 48 90, 0, 0, 48, 48, 48, -48</pre>	



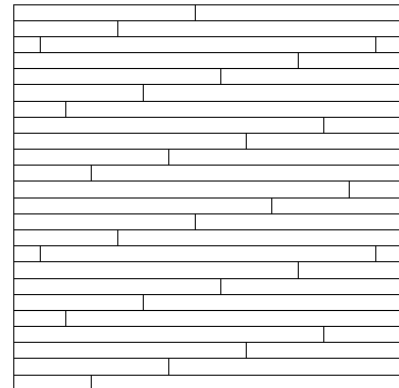
<p><b>Herringbone 04 x 08</b></p> 	<pre>* Herringbone 04 x 08 ;%TYPE=MODEL 45, 0, 0, 4, 4, 12, -4 135, 2.8284271, 2.8284271, -4, 4, 12, -4</pre>	<p>Herringbone pattern in 4" x 8" (upturned standard brick)</p>
<p><b>Parquet 06 x 02</b></p> 	<pre>* Parquet 06 x 02 ;%TYPE=MODEL 0, 0, 0, 6, 6, 6, -6 0, 0, 2, 6, 6, 6, -6 0, 0, 4, 6, 6, 6, -6 0, 0, 6, 6, 6, 6, -6 90, 0, 6, 6, 6, 6, -6 90, 2, 6, 6, 6, 6, -6 90, 4, 6, 6, 6, 6, -6 90, 6, 6, 6, 6, 6, -6</pre>	<p>Parquet pattern of 6" squares made up of 3 x 2" strips</p>
<p><b>Ceiling (6, 48) x 48 Tile</b></p> 	<pre>* Ceiling (6x48) x 48 Tile ;%TYPE=MODEL 0, 0, 0, 0, 54 0, 0, 6, 0, 54 90, 0, 0, 0, 48</pre>	<p>6" and 48" wide by 48" long tiles</p>
<p><b>Ceiling (6, 48) x 96 Tile</b></p> 	<pre>* Ceiling (6x48) x 96 Tile ;%TYPE=MODEL 0, 0, 0, 0, 54 0, 0, 6, 0, 54 90, 0, 0, 0, 96</pre>	<p>6" and 48" wide by 96" long tiles</p>

<p><b>Ceiling (6, 54) x 60 Tile</b></p> 	<pre>* Ceiling (6x54) x 60 Tile ;%TYPE=MODEL 0, 0, 0, 0, 60 0, 0, 6, 0, 60 90, 0, 0, 0, 60</pre>	<p>6" and 54" wide by 60" long tiles</p>
<p><b>Ceiling (24, 48) x 96 Tile</b></p> 	<pre>* Ceiling (24x48) x 96 Tile ;%TYPE=MODEL 0, 0, 0, 0, 72 0, 0, 24, 0, 72 90, 0, 0, 0, 96</pre>	<p>6" and 48" wide by 96" long tiles</p>
<p>Linear patterns</p>		
<p><b>Parallel 02</b></p> 	<pre>* Parallel 02 ;%TYPE=MODEL 0, 0, 0, 0, 2</pre>	<p>2" line patterns</p>

<p><b>Parallel 03</b></p> 	<pre>* Parallel 03 ;%TYPE=MODEL 0, 0, 0, 0, 3</pre>	<p>3" line patterns</p>
<p><b>Parallel 04</b></p> 	<pre>* Parallel 04 ;%TYPE=MODEL 0, 0, 0, 0, 4</pre>	<p>4" line patterns</p>
<p><b>Parallel 06</b></p> 	<pre>* Parallel 06 ;%TYPE=MODEL 0, 0, 0, 0, 6</pre>	<p>6" line patterns</p>

<p><b>Parallel 08</b></p> 	<pre>* Parallel 08 ;%TYPE=MODEL 0, 0, 0, 0, 8</pre>	<p>8" line patterns</p>
<p><b>Boards</b></p>		
<p><b>Boards 02.25</b></p> 	<pre>* Boards 02.25 ;%TYPE=MODEL 0, 0, 0, 0, 2.25 90, 0, 0, 9, 8, 2.25, -27</pre>	<p>Boards 2 ¼" wide x 8' 8" Length</p>
<p><b>Boards 03.25</b></p> 	<pre>* Boards 03.25 ;%TYPE=MODEL 0, 0, 0, 0, 3.25 90, 0, 0, 13, 8, 3.25, -39</pre>	<p>Boards 3 ¼" wide x 8' 8" Length</p>

### Boards 05

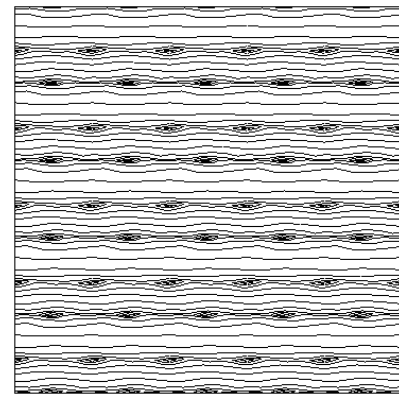


```
* Boards 05
;%TYPE=MODEL
0, 0, 0, 5
90, 0, 0, 20, 8, 5, -60
```

Boards 5" wide x 8' 8" Length

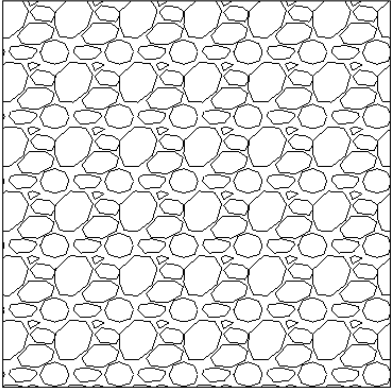
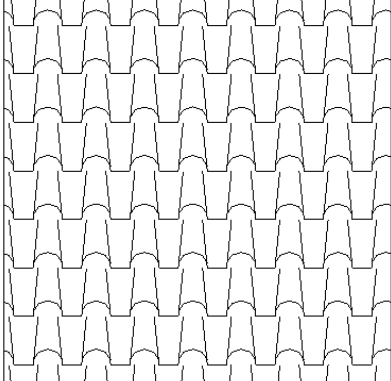
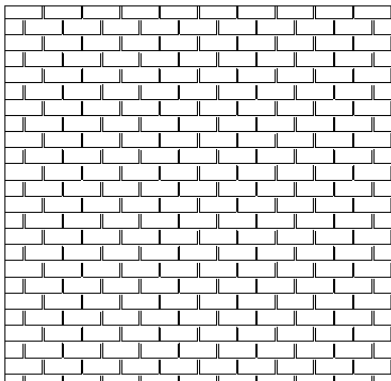
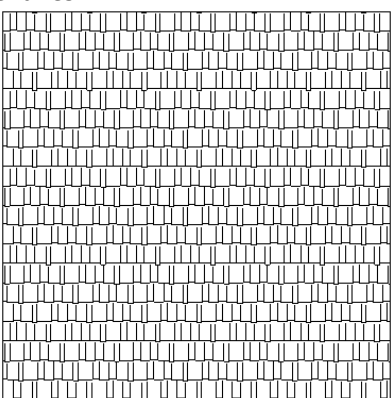
### Other patterns

### Wood



```
* Wood
;%TYPE=MODEL
349.6952, 7.44, 18.48, 145.9705, 2.146632, 2.683272, -265.6449
0, 10.08, 18, 24, 24, 2.64, -21.36
18.4349, 12.72, 18, 53.12626, 7.589472, 2.276832, -73.61782
172.875, 14.88, 18.72, -169.6795, 2.97684, 1.934952, -191.5592
174.8056, 12.96, 18.96, -241.1872, 2.172864, 2.650896, -262.4378
194.0362, 10.32, 19.2, 75.67111, 5.820864, 2.968632, -95.98589
9.4623, 9.36, 18.48, 122.3129, 3.945576, 1.459872, -144.5264
353.6598, 10.8, 18.72, -193.476, 2.650368, 2.173296, -215.1559
185.7106, 12.96, 18.48, 217.3161, 2.388096, 2.411976, -238.785
168.6901, 10.56, 18.24, -98.84254, 4.706784, 1.22376, -121.1527
354.8056, 5.28, 18.24, -241.1872, 2.172864, 2.650896, -262.4378
348.6901, 7.92, 18, -98.84254, 4.706784, 2.44752, -119.9289
0, 10.32, 17.52, 24, 2.88, 24, -21.12
20.556, 13.2, 17.52, 129.2134, 2.808984, 2.05056, -203.0055
3.8141, 15.12, 18.24, 336.8523, 1.596456, 3.607992, -357.1911
354.8056, 18.72, 18.48, -241.1872, 2.172864, 2.650896, -262.4378
0, 21.36, 18.24, 24, 2.64, 24, -21.36
5.1944, 0, 18.24, 241.1872, 2.172864, 2.650896, -262.4378
354.8056, 2.64, 18.48, -241.1872, 2.172864, 2.650896, -262.4378
0, 18.72, 18, 24, 1.44, 24, -22.56
5.1944, 1.44, 18.72, 241.1872, 2.172864, 2.650896, -262.4378
0, 4.08, 18.96, 24, 2.4, 24, -21.6
10.3048, 6.48, 18.96, -145.9705, 2.146632, 2.683272, -265.6449
5.1944, 9.12, 19.44, 241.1872, 2.172864, 2.650896, -262.4378
354.8056, 11.76, 19.68, -241.1872, 2.172864, 2.650896, -262.4378
354.8056, 14.4, 19.44, -241.1872, 2.172864, 2.650896, -262.4378
351.8699, 17.04, 19.2, -145.9468, 3.394104, 3.394104, -166.3115
0, 20.4, 18.72, 24, 2.4, 3.6, -20.4
347.4712, 19.44, 4.32, 122.3488, 2.60316, 2.21268, -219.0564
354.2894, 21.6, 3.84, -217.3161, 2.388096, 2.411976, -238.785
8.1301, 19.44, 4.32, 145.9468, 3.394104, 1.697064, -168.0086
9.4623, 21.12, 4.56, 122.3129, 3.945576, 2.91972, -143.0666
0, 0, 5.04, 24, 2.4, 2.88, -21.12
```

```
350.5377, 2.88, 5.04, -122.3129, 3.945576, 1.459872, -144.5264
201.8014, 4.32, 4.8, -75.7637, 4.45668, 1.292448, -127.9515
192.9946, 3.12, 4.32, -221.2618, 1.798872, 3.202008, -316.9979
352.875, 22.08, 4.32, -169.6795, 2.97684, 1.934952, -191.5592
7.125, 22.08, 4.32, 169.6795, 2.97684, 1.934952, -191.5592
0, 0, 4.56, 24, 1.92, -22.08
194.0362, 1.92, 4.56, 75.67111, 5.820864, 1.979088, -96.97546
356.6335, 5.28, 5.28, -384.7467, 1.409328, 4.087056, -404.6182
357.7094, 9.36, 5.04, -576.499, 0.959232, 6.0048, -594.475
3.1798, 15.36, 4.8, 408.7031, 1.33128, 4.326672, -428.3395
9.4623, 19.68, 5.04, 122.3129, 3.945576, 4.379592, -141.6067
10.3048, 0, 2.88, -145.9705, 2.146632, 2.683272, -265.6449
15.9454, 2.64, 3.36, -98.89961, 3.296664, 3.494448, -171.2282
0, 6, 4.32, 24, 3.12, -20.88
351.8699, 9.12, 4.32, -145.9468, 3.394104, 3.394104, -166.3115
3.5763, 12.48, 3.84, 360.796, 1.497072, 3.847488, -380.9018
351.2538, 16.32, 4.08, 169.6958, 1.824696, 3.156696, -312.514
345.9638, 19.44, 3.6, -75.67111, 5.820864, 2.968632, -95.98589
0, 22.32, 2.88, 24, 1.68, -22.32
174.8056, 5.28, 5.28, -241.1872, 2.172864, 5.301768, -259.7869
355.2364, 0, 6.72, -265.0812, 1.99308, 5.779968, -283.2183
0, 5.76, 6.24, 24, 5.52, -18.48
4.0856, 11.28, 6.24, 312.917, 1.709928, 6.737112, -330.1189
0, 18, 6.72, 24, 6, -18
7.125, 0, 1.68, 169.6795, 2.97684, 5.804832, -187.6894
6.3402, 5.76, 2.4, 193.476, 2.650368, 4.346592, -212.9826
357.5104, 10.08, 2.88, -528.5442, 1.042488, 5.525208, -546.9963
353.4802, 15.6, 2.64, -628.1397, 0.681288, 8.454672, -837.0132
3.0128, 0, 17.28, 432.6643, 1.261416, 4.566312, -452.0648
351.8699, 4.56, 17.52, -145.9468, 3.394104, 5.091168, -164.6145
357.6141, 9.6, 16.8, -552.5206, 0.999144, 5.764992, -570.7348
10.6197, 15.36, 16.56, -268.3241, 1.47432, 3.906912, -386.7848
0, 19.2, 17.28, 24, 4.8, -19.2
356.8202, 0, 20.16, -408.7031, 1.33128, 4.326672, -428.3395
6.009, 4.32, 19.92, -241.1937, 1.256208, 4.5852, -453.9342
6.7098, 8.88, 20.4, -217.3247, 1.402104, 4.108128, -406.7057
354.2894, 12.96, 20.88, -217.3161, 2.388096, 4.823952, -236.3731
347.9052, 17.76, 20.4, -221.2627, 1.676232, 3.436272, -340.1914
9.4623, 21.12, 19.68, 122.3129, 3.945576, 2.91972, -143.0666
3.8141, 0, 15.6, 336.8523, 1.596456, 3.607992, -357.1911
347.1957, 3.6, 15.84, -320.1982, 1.063776, 5.41464, -536.05
0, 8.88, 14.64, 24, 6, -18
5.4403, 14.88, 14.64, -265.0862, 1.13772, 5.0628, -501.2178
6.7098, 19.92, 15.12, -217.3247, 1.402104, 4.108128, -406.7057
0, 0, 21.84, 24, 4.08, -19.92
8.1301, 4.08, 21.84, 145.9468, 3.394104, 6.788232, -162.9174
357.6141, 10.8, 22.8, -552.5206, 0.999144, 5.764992, -570.7348
354.4725, 16.56, 22.56, 506.28, 0.770592, 7.474752, -740.001
6.8428, 0, 0, -410.8127, 0.95316, 6.043056, -598.2615
0, 6, 0.72, 24, 6.72, -17.28
356.3478, 12.72, 0.72, -745.5466, 0.509592, 11.30294, -1118.993
0, 8.4, 8.4, 24, 5.76, -18.24
4.7636, 5.76, 8.4, 265.0812, 1.99308, 5.779968, -283.2183
358.1524, 11.52, 8.88, -720.3995, 0.773784, 7.443864, -736.9431
357.2737, 18.96, 8.64, -480.5983, 1.14156, 5.045712, -499.5254
354.8056, 0, 12.24, -241.1872, 2.172864, 5.301768, -259.7869
0, 5.28, 11.76, 24, 7.68, -16.32
1.9092, 12.96, 11.76, 696.4132, 0.79956, 7.204008, -713.1959
3.5763, 20.16, 12, 360.796, 1.497072, 3.847488, -380.9018
```

<p><b>Stone (river)</b></p>  A fill pattern consisting of irregular, rounded shapes representing river stones, arranged in a dense, non-repeating pattern.	<p>Pattern definition forthcoming</p>
<p><b>Roof Tiles</b></p>  A fill pattern showing a regular, repeating arrangement of roof tiles, with each tile overlapping the one below it and interlocking with the one to its side.	<p>Pattern definition forthcoming</p>
<p><b>Shingles</b></p>  A fill pattern of shingles, showing a regular, repeating arrangement of rectangular shingles laid in a traditional staggered pattern.	<p>Pattern definition forthcoming</p>
<p><b>Shakes</b></p>  A fill pattern of shakes, showing a regular, repeating arrangement of small, rectangular shakes laid in a traditional staggered pattern, similar to shingles but with a more textured appearance.	<p>Pattern definition forthcoming</p>

Tags & Symbols [in progress]

Description

The following Tags and Symbols have been approved for review at the BOC Oversight Fall Retreat. Upon final approval from the BOC based on our discussions, these tags and symbols will be either integrated into the foundation Template and/or part of the Shared annotation library.

Key Issues

Other collections to be included at a future time:

- Wall Mounted Life Safety equipment and devices symbols
- Reflected Ceiling equipment and devices symbols
- Light Fixtures symbols
- Mechanical Fixture symbols
- Power and Communications
  - Wall mounted devices
  - Flush floor mounted devices
  - Flush floor mounted, poke thru devices
  - Surface floor Mounted devices
  - Surface floor mounted poke thru devices
  - Furniture systems Mounted devices
  - Security Devices

What's been removed:

- Plumbing Fixtures Tag
- Wall Type Tag
- Wall, Wainscot and Base Finished Tag
- Window tag – Round

Revit Conventions

Existing Naming Convention:

Symbol\_[type] – [option]

Tag\_[type] – [option]

New Naming Convention:

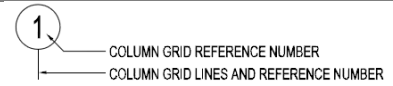
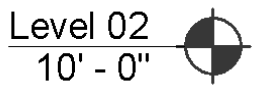
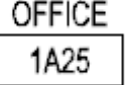

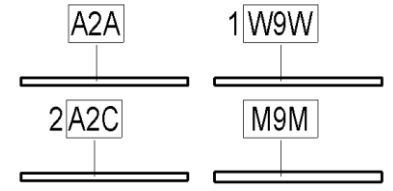
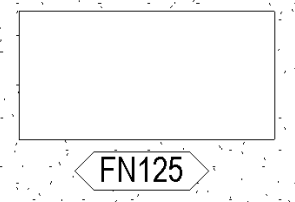
Symbol – [view type] - [category] – [option]

Tag – [view type] - [category] – [option]

Overall Revit Performance and Behavior Upgrades

- Opacity type option set to the entire tag geometry and not to the label or text annotation only
- Use of parametric types to reduce the amount of separate related families to manage
- General clean up and with 2012 removed all purgable elements
- Alignment with template objects styles
- Integrated Symbols with production workflows in Sheet Note Reference and the “all in one” Finish Tags

Tags and Symbols

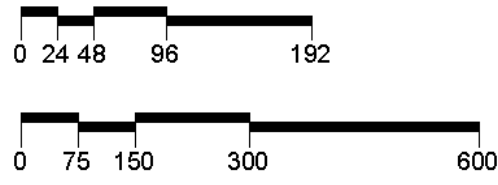
Category	Graphic Symbol	Construction	Revit Information
<b>Grid</b>			System Family: Grid Name: Callout – Grid Head Line Style: * Grid Label Max: 2 with a <> EG: F.9 Types: Bubble (Continuous) Bubble (Split)
<b>Level Heads</b>			Family Category: Level Heads Name: Level Head – Target Filled.rfa Label Max: 25 Types: **Heights to be established Object Style: Level Heads
<b>Room Tag</b>			Family Category: Room Tags Name: Tag – Room.rfa Built in Prefix: none Label Max: 6 Types: room & Room number Room Number SF Object Style: Room Tags
<b>Finish Ceiling Height Tag</b> <i>*Graphic Revit Behavior Updated</i> <i>*all in one</i>			Family Category: Generic Annotations Name: Symbol – Finish Material Specification.rfa Types: **by Finish Code Object Generic Annotation > Finish Symbol
<b>Partition Type Tag</b> <i>*Graphic Revit Behavior Updated</i> <i>*all in one</i>			Family Category: Wall Tags Name: Tag – Partitions.rfa Built in Prefix: Fire Rating Parameter (only when filled) Label Max: 1 (fire rating) 3 (Wall code) Types: Default Width (default type) Extended Width Opaque by default Object Style: Wall Tags
<b>Furniture Tag</b> <i>*New Graphic standard established</i>			Family Category: Furniture Tags Name: Tag – Furniture – Type Mark.rfa Built in Prefix: FN Label Max: 3 Types: Opaque Background (default type) Transparent Background Object Style: Furniture Tags

<b>Millwork Tag</b>		Family Category: Casework Tags Name: Tag – Casework – Type Mark.rfa Built in Prefix: MW Label Max: 2 Types: Opaque Background (default type) Transparent Background Object Style: Casework Tags
<b>Wall and Base Finish Tag</b> <i>*Graphic Revit Behavior Updated</i> <i>*all in one</i>		Family Category: Generic Annotations Name: Symbol – Finish Material Specification.rfa Types: **by Finish Code Object Generic Annotation > Finish Symbol
<b>Floor Finish</b> <i>*Graphic Revit Behavior Updated</i> <i>*all in one</i>		Family Category: Generic Annotations Name: Symbol – Finish Material Specification.rfa Types: **by Finish Code Object Generic Annotation > Finish Symbol
<b>Ceiling Finish Tag</b> <i>*Graphic Revit Behavior Updated</i> <i>*all in one</i>		Family Category: Generic Annotations Name: Symbol – Finish Material Specification.rfa Types: **by Finish Code Object Generic Annotation > Finish Symbol
<b>Special Finish</b> <i>*Graphic Revit Behavior Updated</i> <i>*all in one</i>		Family Category: Generic Annotations Name: Symbol – Finish Material Specification.rfa Types: **by Finish Code Object Generic Annotation > Finish Symbol
<b>Electrical Equipment Tag</b>		Family Category: Electrical Name: Tag – Electrical Equipment Built in Prefix: EQ Label Max: 3 Types: Opaque Background (default type) Transparent Background Object Style: Electrical Equipment Tags
<b>Area Tag</b>	<p>Area 1884 SF COMMENT FIELD</p>	Family Category: Area Tags Name: Tag – Area.rfa Built in Prefix: none Label Max: 6 Types: Area Area and SF Area, SF and Comment Object Style: Area Tags

<b>Door Tag</b> <i>*Graphic Revit Behavior Updated</i> <i>*all in one</i>		Family Category: Door Tags Name: Tag – Door.rfa Built in Prefix: none Label Max: 4 - 6 door ref/number 2 door type, 3 hardware Types: Door #, Type, Hardware Door ref 4,5,6 Door type and hardware Object Style: Door Tags
<b>Windows Tag</b> <i>*Graphic Standard Direction</i>		Family Category: Window Tags Name: Tag – Window.rfa Built in Prefix: none Label Max: 2 Types: Opaque Background (default type) Transparent Background Object Style: Window Tags
<b>Match Line</b>		Family Category: Spot Elevation Symbols Name: Symbol – Elevation Datum Reference Head.rfa Types: Target Open Target filled Opaque Background (default type) Transparent Background Object Style: Generic Annotations
<b>Sheet Continuation Symbol (View Reference Tag)</b> <i>*Graphic Changed</i>		Family Category: View Reference Name: Tag – View Reference.rfa Built in Prefix: Matchline See Label Max: 5 Types: Opaque Background (default type) Transparent Background Object Style: View Reference
<b>Align Symbol</b> <i>*Graphic Revit Behavior Updated</i> <i>*all in one</i>		Family Category: Generic Annotations Name: Symbol – Align – S and U Shaped.rfa Types: S – Shaped U - Shaped Object Style: Generic Annotations
<b>Ceiling Height Change Symbol</b>		Family Category: Ceiling Tags Name: Symbol – Ceiling Height Change.rfa Types: none Object Ceiling Tags
<b>Change Floor</b>		Family Category: Generic Annotations Name: Symbol – Change Floor.rfa Types: none Object Generic Annotation

<b>Elevation Tag</b>		<p>Family Category: Elevation Marks                  Name: Elevation Mark – Body                  Elevation Mark - Pointer                  Built in Prefix: none                  Label Max: 5                  Types: Opaque Background (default type)                  Transparent Background                  Object Style: Elevation Mark</p>
<b>Section Heads</b>	SECTION SYMBOL	<p>Family Category: Section Marks                  Name: Callout – Section Heads.rfa                  Label Max: 5                  Types: Building Section                  Detail Section                  Wall Section                  Opaque Background (default type)                  Transparent Background                  Object Style: Section Marks                  &gt;medium lines                  &gt;thin lines                  &gt; wide lines</p>
<b>Callout Tag and Bubble</b>		<p>Family Category: Callout Head                  Name: Callout – Head                  Built in Prefix: none                  Label Max: 5                  Types:                  Object Style: Callout Heads</p>
<b>Revision</b> *Graphic Revit Option added – RFI # label?		<p>Family Category: Revision Cloud Tag                  Name: Tag – Revision Number                  Built in Prefix: none                  Label Max: 2                  Types: Opaque Background (default type)                  Transparent Background                  Object Revision Cloud Tag</p>
<b>Sheet Note Reference</b> *Graphic Revit Behavior Updated	SHEETNOTE REFERENCE	<p>Family Category: Generic Annotations                  Name: Symbols – Sheet Note.rfa                  Built in Prefix: none                  Label Max: 2                  Types: (**by sheet set)                  Object Style: Generic Annotations &gt; Sheet Note</p>
<b>Keynote Tag</b>		<p>Family Category: Keynote Tags                  Name: Tag – Keynote.rfa                  Types: Keynote Number, Keynote Name, Keynote Name and Number (default type)                  Object Style: Keynote Tags</p>
<b>Break Line</b>		<p>Family Category: General Annotation                  Name: Symbol – Break Line – Single.rfa (and Double)                  Object Style: Generic Annotations</p>

<b>Centerline Symbols</b> *Graphic Changed		<p>Family Category: Generic Annotations                  Name: Symbol – Centerline.rfa                  Types: Centerline                  Object Style:                  Symbol Centerline</p>
<b>Elevation Datum Reference</b>		<p>Family Category: Spot Elevation Symbols                  Name: Symbol – Elevation Datum Reference Head.rfa                  Types: Target Open                  Target filled                  Opaque Background (default type)                  Transparent Background                  Object Style: Generic Annotations</p>
<b>Grid Startpoint Symbol</b>		<p>Family Category: Generic Annotations                  Name: Symbol – Grid Startpoint.rfa                  Types: Opaque Background (default type)                  Transparent Background                  Object Style: Generic Symbol</p>
<b>Project Datum Symbol</b> *Graphic Changed		<p>Using the Revit Graphic and toolset.</p>
<b>North Arrow</b> *Graphic Changed		<p>Family Category: Generic Annotations                  Name: Symbol – North Arrow.rfa                  Types: North Arrow                  Object Style:                  Magnetic North                  North Arrow</p> <p>Properties                  Symbol - North Arr                  Symbol - North Arr                  Generic Annotations (1)                  Identity Data                  Rotation from True North 0.0                  Magnetic True North 301                  Visibility                  Visibility_Reference Text <input checked="" type="checkbox"/>                  Visibility_Magnetic North <input checked="" type="checkbox"/></p>
<b>Egress Path</b> *Graphic Revit Behavior Updated	<p>Plan representation</p> <p>—▶— — EGRESS PATH PRIMARY                  —&gt;— — EGRESS PATH SECONDARY</p> <p>3D view as a information graphic only:</p>	<p>Family Category: Generic Model                  Name: Symbol – Egress Path                  Types : Egress Path Secondary                  Egress Path Primary                  Object Style:: Path of Egress                  Path of Egress Origin                  Path of Egress Primary                  Path of Egress Secondary</p>

<b>Graphic Scales</b>		Family Category: Generic Annotation Name: Symbol - Graphic Scale.rfa Types: Imperial, Metric Object Style: Generic Annotations
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# Graphic Conventions [in progress]

## Graphic Conventions [in progress]

### Description

The following Graphic Conventions are currently for information only of current status. These will be ratified by BOC at a future date.

### Graphic Conventions

Category	Graphic Symbol	Construction	Revit Information
<b>Wall Phasing</b>			Refer to the Phasing standards
<b>Wall Fire Rating</b>			Invested but no clear standard approach set at this time
<b>Millwork</b>			Line type: *Overhead Fill Pattern: ???
<b>Insulation</b>			Using insulation tool in Revit – System Element Line Style: Insulation Batting Lines 1 - Solid