

That CAD Girl

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Managing Blocks

BLOCK TYPE #1 - A symbol block such as a water meter. The block is comprised of several entities (lines, text, arcs, etc.) that should all freeze and thaw as one entity.

The entities **MUST** be drawn on LAYER 0.

The color and linetype of each entity can be set individually or can be assigned BYLAYER.

The block **MUST** be inserted on the correct layer for the symbol. For example, water meters belong on layer UTIL-WATER. Set this layer current whenever you insert the water meter symbol.

If the entities making up the meter were drawn with color and linetype set to BYLAYER, then the entities will all take on the color and linetype assigned to the UTIL-WATER layer. Freezing and thawing or turning on and off layer UTIL-WATER will affect the entire water meter symbol.

If the entities making up the meter were drawn with color and linetype assigned individually, then the entities will retain those color and linetype settings instead of taking on the color and linetype assigned by the layer. Freezing and thawing or turning on and off layer UTIL-WATER will affect the entire water meter symbol.

Because the block entities were drawn on layer 0, the symbol can be moved from the UTIL-WATER layer to another and will 1) take on the properties of the new layer **IF** the entities were drawn with color and linetype set to BYLAYER or 2) retain the color and linetype overrides defined in the block.

BLOCK TYPE #2 - A multi-function block made up of many layers. This block needs to remain a block but the layers within the block must freeze and thaw independently. An example is a title block that contains many layers that can be frozen or thawed, but the title block must remain a block.

The entities can be on any number of layers and can have colors and linetypes set to BYLAYER or set individually.

The block **MUST** be inserted on layer 0.

Without exploding, the layers included in the block can be frozen and thawed independently from the entire block. This will **ONLY** happen if inserted on layer 0.

If the block is accidentally inserted on a layer other than 0, you cannot move the block to layer 0 later without losing this freeze/thaw functionality.

NOTE: Sometimes the Layer Freeze command on the Express Tools layer toolbar does not work when trying to freeze layers nested inside a block. However, freezing by using the layer pull-down manager or the full Layer Properties Manager works fine.

Follow the Rules

Blocks will behave exactly the way you want, provided you follow the rules for creating them. Generally, when you insert a block, the color, linetype and lineweight of objects in the block retain their original settings regardless of the current settings in the drawing. However, you can create blocks with objects that inherit the current color, linetype and lineweight settings. These objects have floating properties. You have three choices for how the properties of objects are treated when a block is inserted.

1. Objects in the Block do not inherit color, linetype and lineweight properties and the properties of the object in the Block do not change regardless of the current settings. For this choice, it is recommended that you set the color, linetype and lineweight properties individually for each object before you create the Block definition. Do not use BYBLOCK or BYLAYER for the properties of these objects.
2. Objects in the Block inherit color, linetype and lineweight properties from the color, linetype and lineweight assigned to the current layer. For this choice, before you create objects to be included in the Block definition, set the current layer to 0 and set the current color, linetype and lineweight to BYLAYER when you create the geometry for your Block.
3. Objects inherit color, linetype and lineweight from the current color, linetype and lineweight. This is like setting an override by not assigning the property from the current layer. For this choice, before you create objects to be included in the Block definition, set the current color, linetype or lineweight to BYBLOCK.

Simply Stated

A Block will take on the properties of the current layer when inserted, provided it has either been created on Layer 0 or with the properties BYLAYER.

A Block will retain its original properties from the layer it was created on when the properties of objects have been set to BYBLOCK.