CAD – ELEMENT ATTRIBUTES - BYLAYER AND BYBLOCK

LAYER "0" (ZERO)

Layer "0" (zero) is the default layer in DWG Editors (such as AUTOCAD), and has some special properties when it comes to BLOCKS. When inserted into a drawing, any entities within the BLOCK that have been set to layer "0" will adopt the current layer.

In the case of annotations (such as symbols) that aren't drawing or project specific, their entities should be assigned to Layer "0". When they are inserted into drawings, they will automatically adopt the current layer, and won't bring in any other unnecessary layers.

BYLAYER

Generally speaking, all entities should have their attributes assigned to BYLAYER.

If a BLOCK contains entities assigned to layer "0" (zero), and with the colour and line style attibutes assigned to BYLAYER; when inserted, the entities colour and line style will adopt the attributes of that LAYER.

The AUTOCAD Colour Index (ACI) of BYLAYER is "256".

BYBLOCK

If a BLOCK contains entities with the colour and line style attributes assigned to BYBLOCK; when inserted, the entities colour and line style will assume the attributes assigned to that BLOCK. This provides the ability to override the attributes of the Block's LAYER if needed, without locking entities to an explicit colour and line style inside the BLOCK.

If the BLOCK itself has its colour and line style attributes assigned to BYLAYER, then the Block's entities assigned to BYBLOCK will adopt the colour and line style of the LAYER.

If the BLOCK is assigned an explicit colour or line style, such as red or dashed; then the Block's entities assigned to BYBLOCK will adopt the colour and line style of the BLOCK.

If maximum flexibility is desired in how BLOCK entities are displayed, then set the entity layers to "0" (zero), and the colour and line style attributes to BYBLOCK. Alternatively, set some entities to BYLAYER and some entities to BYBLOCK.

Note that entities assigned the colour BYBLOCK will display in the default colour (white or black, depending on your system settings) until they are grouped into a block. After inserting the block into a drawing, the entities assume the currently selected colour for new entities.

The AUTOCAD Colour Index (ACI) of BYBLOCK is "0" (zero).