



Installation Guidelines for NCS V6 Symbols

About the NCS V6 Symbols

The V6 NCS Symbols Task Team undertook the Herculean task of repackaging all the symbols, Linetype and materials hatch pattern files so they are useable “Out-of-the-box.” The symbols are:

1. Converted to inches
2. Have usable insertion points
3. Have line type definitions
4. Have pattern (.pat) file definitions
5. Are named in meaningful names

When we say meaningful names, we mean readable by users (who understand NCS abbreviations, at least). The following is the general symbol naming convention:

Symbol Type	<i>MasterFormat</i> number (spaces omitted) – 3 digit number – type (space) abbreviated name
Identity	014000-008-ID QUAL REQ TEMP G POINT INDICATOR NEW.dwg
Object	010000-001-OBJ COL CIRC.dwg
Text	010000-012-TEXT GREATER THAN.dwg
Reference	014200-020-REF DETAIL INDICATOR.dwg
The following types do not have type in name, as this makes them more useable in software programs	
Line	014200-008 FIRE RESISTIVE RATED LINE 3 HOUR.lin
Material	044000-003 STONE CUT.pat

The NCS V6 Symbols are available in 2 ways:

- *MasterFormat* Division Drawing Libraries - NCS_V6_Symbol_Master_Dwgs.zip
- Symbol Drawings in Zip Files (individual dwg symbol files) - NCS_V6_Symbol_Div_Files.zip

1. *MasterFormat* Division Drawing Libraries

This is a zip file of all the NCS V6 symbols inserted in separate drawings for each *MasterFormat* Division that has symbols or linetypes. All Master Drawings are in the NCS_V6_Symbol_Master_Dwgs.zip file.

1.1 Master Drawings contain symbols and linetypes

Within each master drawing library, the symbols are inserted in a grid at 1:1 scale, and the linetypes are inserted below the grid.

This format has been optimized to use with library management functions of CAD programs, such as AutoCAD’s Design Center. From there, it is easy to drag and drop the desired drawing or Linetype into your target drawing or template.



the font name, the prerequisite linetypes which are included in the NCS_Linetypes.lin have been named NCS... so they should not conflict with other line styles (e.g., NCS-ZIGZAG instead of ZIGZAG).

313500-011 GEOSPACER LINE requires NCS_V6.shx, which is included in the NCS_V6_Linetypes.zip, and it must be in your search path.

3. Material Hatch Patterns

3.1 Material File Formats

NCS V6 Material files are normally hatch patterns (.pat) files. However, some of the hatch pattern files are no longer available. Therefore, these files are provided in a .dwg format (see NCSV6_DIV04.dwg for examples). Most of the missing Materials files could more correctly be classified as examples rather than hatch patterns (e.g., 042100-018 TILE STRUCT FL UNITS.dwg). These are most often constructed of other hatch patterns or are simply lines (e.g., 055000-001 SHT MTL & ALL MTL.dwg or 088000-001 GL.dwg). However, some clearly should be hatch patterns, if the .pat file was available (e.g., 042100-017 TILE STRUCT CLAY.dwg). Some Materials have no .dwg or .pat files—only the image in the NCS V6 pdf (e.g., 05 54 00 checker plate, plan).

3.2 Using .dwg and Image Files

The .dwg files are contained in the dwg folders:

- *MasterFormat* Division Drawing Libraries
- Symbol Drawings in Zip Files (individual dwg symbol files)

If you need to use the materials files which are only available in .dwg format, check out the AutoCAD Express Tools SUPERHATCH command — SUPERHATCH hatches an area using a selected image, block, xref, or wipeout object.

SUPERHATCH can also be used when there is no .dwg file (e.g., 05 54 00 checker plate, plan). The image files in the NCS can be saved as an image file (e.g., .jpg, .png, .bmp) and used with SUPERHATCH.

3.3 Using .pat files

Since library management utilities do not handle hatch pattern files, these are placed in the NCS_V6_Material_Hatch_Patterns folder. This folder contains:

- NCS V6 Material Hatch Patterns.dwg—this file only shows the patterns placed within a rectangle and cannot be used in creation of new drawings. This file also does not have the Materials files which are only available in .dwg or image formats—only the .pat files
- NCS V5 Material Patterns Combined.pat
- All the individual .pat files listed by *MasterFormat* number and name



3.3.1 Using the individual .pat files

If you want to use the individual .pat files, please follow these guidelines:

1. Copy the .pat files to a folder within your path (e.g., Support File Search Path) or
2. Create a new folder in your library (e.g., NCS_V6_Material_Hatch_Patterns folder), copy the .pat files to it and place that folder in the search path
3. Start Hatch and select the desired pattern from the list

If you use master library folders to share among designers, this is the easiest way to handle the .pat files.

3.3.2 Using the NCS V6 Material Patterns Combined.pat

You can only have one default .pat file (e.g., acad.pat) in your support folder. If you want to include the NCS V6 patterns in your default .pat, follow these instructions:

1. Open the default .pat file (e.g., acad.pat)
2. Copy the contents of the NCS V6 Material Patterns Combined.pat into your clipboard and paste these at the end of the acad.pat file
3. The next time you load your CAD engine, these pattern files will be available in your Hatch listing

The advantage of adding these to your default .pat file is you can adjust the order of contents with a text editor. For example, you could move the Div. 04 patterns toward the top of your .pat file so they will appear earlier in the list.

The downside of this is you will need to modify the default .pat file every time you upgrade your program.

4. NCS V6 Individual Symbol Files

All the individual symbol files are included in the NCS_V6_Symbol_Div_Zip_Files.zip. This archive is helpful for some CAD and drawing tools, such as Visio, that do not easily support Master Drawing Libraries. If you need individual symbols files, please follow these instructions:

1. Download NCS_V6_Symbol_Div_Files.zip
2. Unzip this folder in your preferred library location with your path functionality (e.g., AutoCAD's Support File Search Path)
3. This will contain the 25 Divisions which contain symbols, plus the linetype and hatch pattern folders listed above
4. Alternatively, you can unzip only the folders you desire, which will save some drawing space (e.g., only unzipping Div. 01)
5. When you need to use a symbol, you will need to proceed to the desired division and select the drawing you desire and insert it into your drawing
6. Follow the instructions in section 1 for linetype and hatch pattern files



5. Reporting Errors and Problems

If there are issues with the symbols, linetypes or pattern files, please contact NCS at:

NCS Library www.nationalcadstandard.org

Please provide:

1. Your name, contact phone, address and email
2. Description of the problem
3. Your solution (e.g., a revised symbol or .pat file)

Thank you for supporting NCS Symbology!

The V6 NCS Symbols Task Team

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