High Steel Structures^{LLC} DXF File Specification

Version: 2 (5/12/2021)

Prelude

The following specification outlines the format for which High Steel Structures^{LLC} will expect to receive .dxf part files in.

Part Names

Part files should be named using the [job]_[mark]-[revision] format. For example: part `x1a` for job `1200018A` with revision `0` would be named `1200018A_x1a-R0`

Layers

Entities are to be grouped into the following layers:

Layer Name	Description	Examples
CUT	Profile Entities	profile, holes, interior contours
MARK	Marked entities	work points, set lines
DETAIL	Reference entities	direction-of-roll constraints
PARTDATA	Part attributes	grade, thickness, drawing

Key: Value pairs

Text attributes on the PARTDATA layer are to be organized into KEY: VALUE pairs. For example, material grade of A709-50 would result in the string `MATERIAL: A709-50` . Part attributes can be inside or outside the contour of the part, unless part file has multiple parts in it.

KEY	Value Description	Format	Example(s)
PARTNAME	Part name	[job]_[mark]	1200018A_x1a

KEY	Value Description	Format	Example(s)
MATERIAL	Material grade	[spec]-[grade][test?]	A709-50T2
THICKNESS	Part Thickness (plate items)	integer or decimal	1.375
DRAWING	Drawing number	alphanumeric	1 or X1
REVISION	Revision number	alphanumeric	0

Hole Sizes

RA holes will match the subsize diameter. All other holes will match the final diameter.

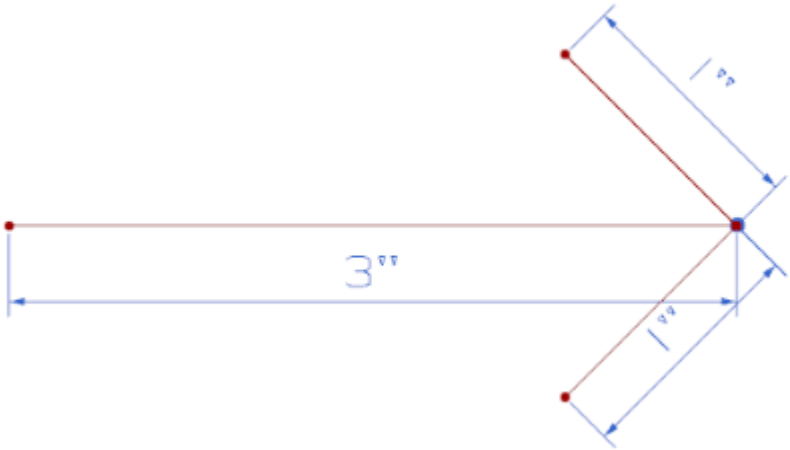
Bent Plates

Bent plates with holes on both sides of the bend line do not require DXF files (HSS will create models as they require special modeling). All other bent plates should have DXF files supplied. Bent plate lengths are to be calculated along the radius at the mid-thickness of the plate.

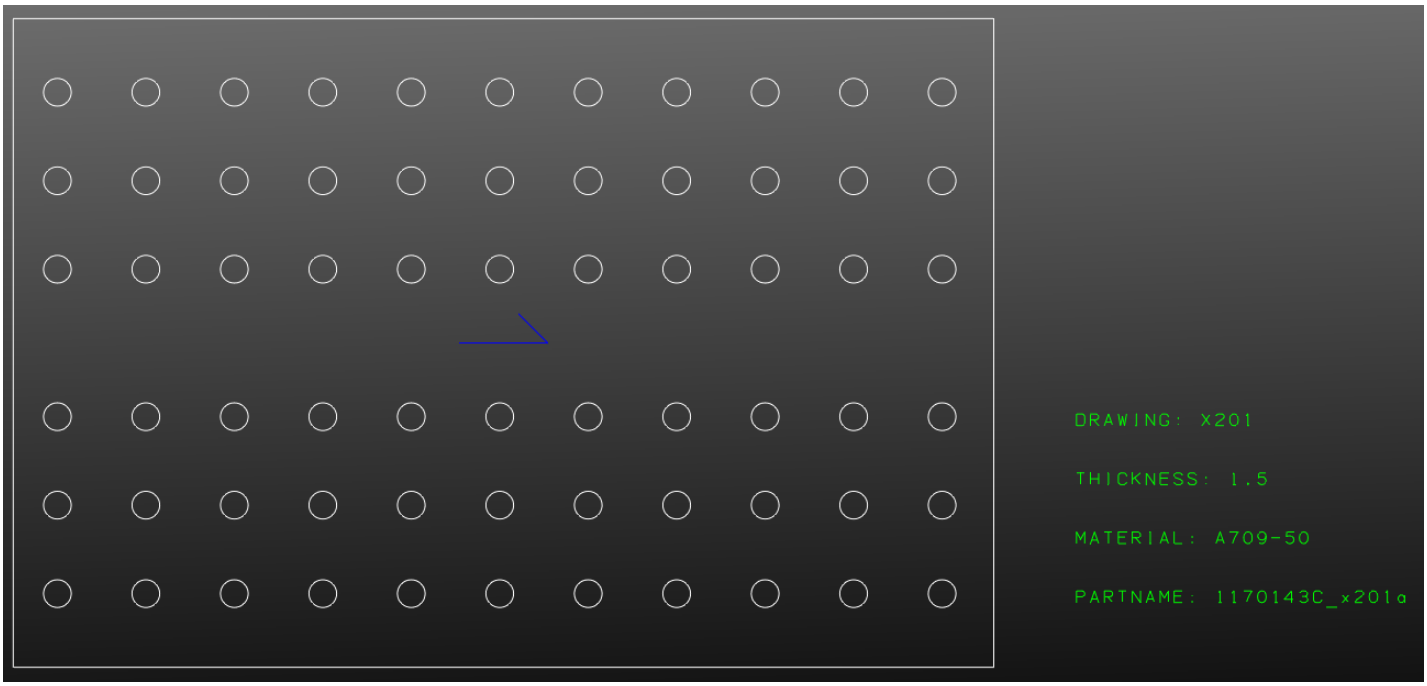
Direction-of-rolling constraint

For parts where there is a requirement of direction of mill rolling, an arrow should be placed on the DETAIL layer in the center of the part.
This can be a two line arrow or three line arrow. Only lines are needed. Dimensions and points are for reference.


1"
3"


1"
3"
1"

Example


DRAWING: X201
THICKNESS: 1.5
MATERIAL: A709-50
PARTNAME: 1170143C_x201a