



Detailing Standards

- 1 All drawings, NC and DXF files are to be generated from Xsteel or StruCad model. Drawing templates, print sizes and file names must follow World Fabricators Ltd. (WFL) standards. See WFL Detailer Training site for details.
<http://www.worldfabricators.com/DetailerTraining/index.html>
- 2 All drawings to include Title block, Bill of Material, Shop Notes, Field Bolt List and Quality Control Check Box. Erection Drawings are to be 24" x 36". Assembly drawings are to be 11" x 17" except where 24" x 36" is required for clarity of complex items. Part drawings to be 8-1/2" x 11".
- 3 Title Block to include standard information as shown on the sample drawings and as noted in Contract Specifications including the following:
 - Title
 - Project
 - Structure
 - Location
 - Customer
 - Architect
 - Structural Engineer
 - Contract number, drawn by, checked by, and date
 - Drawing or sheet number
 - Drawing revision number, Use alpha designation prior to shop issue, (Rev A). First shop issue to be numerical, (Rev. 0)
 - Revision, date and description
 - Erection drawing reference
 - Design drawing reference
- 4 Bill of Material to include standard information as shown on the sample drawing including the following:
 - Sequence
 - Mark
 - Quantity
 - Description
 - Length
 - Grade
 - Notes
 - Unit weight
 - Extended weight
 - ABM number
- 5 Shop notes to include standard information as shown on the sample drawing including the following:
 - Assemble mark to be marked on top face indicated thus ▼
 - Mark connection face indicated thus <



- All holes U.N.O. to be: as noted
- All welds to be category E70XX, U.N.O.
- Material finish U.N.O: *BARE, GALV & (PM1, PM2, PM3, etc. as req'd by Specs.)*
- Surface preparation as per spec.
- All copes to have 1/2" radius at internal corners U.N.O.
- All welds minimum 3/16" continuous fillet, U.N.O.
- Provide all necessary drain holes for galvanized material
- Seal all galvanized material with fillet weld

6 Field Bolt List to include standard information as shown on the sample drawing including the following:

- Quantity
- Type
- Size

7 Quality Control Check Box to include standard information as shown on the sample drawing including the following:

	1	2	3	4	5	6	Shop Issued
Prep							
Fit							
Weld							
Chk.							

8 All drawing numbers shall have the same quantity of digits. Assembly mark identification and drawing numbers shall be as follows:

- Phasing as follows (model to be color coded by phase):
 - First digit of the numbering system represents the phase
 - 10000 = Phase 1 or A
 - 20000 = Phase 2 or B
 - 30000 = Phase 3 or C
 - 90000 = Phase 9 or I
- Assembly Part Marks:
 - 1001B = Beams
 - 2001C = Columns
 - 3001D = Diagonals (Horizontal brace, vertical brace, Misc brace.)
 - 4001E = Embedded material
 - 5001A = Loose angles
 - 6001G = Girts and Purlins
 - 7001HR = Railing (Handrail and guardrail)
 - 8001AB = Anchor Bolts
 - 9001M = Miscellaneous metal (Welded frames, ladders, stairs, etc.)

Example of beam in Phase B = 21001B

Example of diagonal brace in Phase D = 43001D

- Single Part Marks:
 - p1001 = Secondary parts
 - h2001 = Bent plates



- m3001 = Main member

Example of a secondary member in Phase 1 = p11001

Example of a bent plate in Phase 3 = h32001

Example of a main member in Phase 2 = m23001

- d) Erection Drawing Numbers
- E1001 = Phase A or 1
 - E2001 = Phase B or 2
 - E3001 = Phase C or 3
 - E4001 = Phase D or 4

9 Reports shall be issued as follows:

a) "ABM" Reports:

- Advance Bill of Material cut list
- kiss file report
- XSteel FabTrol Reports
 - fabtrol_assembly_parts_list..xrs
 - fabtrol_drawing_list.xrs
 - fabtrol_drawing_revision_list.xrs
- StruCAD Fabtrol Reports
 - FabTrol.rep
 - fabtrolboltlist.rep
 - history.iss

b) "To Approval" Reports:

- Transmittal Assembly.xrs including erection drawings
- Material Cut List (For reference only)
- Field Bolt Lists
- XSteel FabTrol Reports
 - fabtrol_assembly_parts_list..xrs
 - fabtrol_drawing_list.xrs
 - fabtrol_drawing_revision_list.xrs
- StruCAD Fabtrol Reports
 - FabTrol.rep
 - fabtrolboltlist.rep
 - history.iss

c) "Shop Issue" Reports:

- Assembly Part List.xrs
- Bolt Summary.xrs
- Material Summary.xrs
- Material Summary Bevel Cut.xrs
- Site Bolts P2P.xrs
- Transmittal Assembly.xrs including erection drawings
- Transmittal Single Parts.xrs
- XSteel FabTrol Reports
 - fabtrol_assembly_parts_list..xrs
 - fabtrol_drawing_list.xrs



- fabtrol_drawing_revision_list.xls
 - StruCAD Fabtrol Reports
 - FabTrol.rep
 - fabtrolboltlist.rep
 - history.iss
- 10 Drawing Issues shall include the following:
- a) “To Approval”
 - Assembly drawings (PDF format)
 - Erection drawings (PDF format) showing assembly mark, member size, grids, elevation levels, field erection details
 - Reports as per requirement
 - All drawing and report files to be uploaded via WFL online system with submittal notice included
 - b) “Shop Issue”
 - Assembly drawings, (PDF format)
 - Part drawings (PDF format)
 - Bent plate / Plate (CNC machine files in NC or DXF format)
 - Erection drawings, isometric, & embed layout, (PDF format) showing assembly mark, member size, grids, elevation levels, field erection details
 - Reports as per requirement
 - All drawing and report files to be uploaded via WFL online system with submittal notice included
 - b) “Field Issue”
 - Erection drawings, isometric, & embed layout, (PDF format) showing assembly mark, member size, grids, elevation levels, field erection details
 - All drawing and report files to be uploaded via WFL online system with submittal notice included
- 11 All drawing file names must conform to WFL file naming convention.
i.e. 110-G-E1002-Rev-0.PDF, 110-A-10002B-Rev-0.PDF, 110-W-h11001-Rev-0.PDF
- 12 All report names to be identified with Job No., Issue No. and Date. i.e. 110-AP-01-Jan012008
- 13 All reports, drawings and files to be generated directly from Xsteel or StruCad
- 14 An up-to-date project model is to be uploaded to World Fabricators FTP site on every shop issue with email notification to project team included.
- 15 All Approval, Shop and Field issue drawings must be uploaded to World Fabricators’ online Drawing Management system with submittal notice included. To learn how to use WFL online system, please go to <http://www.worldfabricators.com/DetailerTraining/Step4.html>
- 16 Sample drawings can be downloaded from WFL Detailing Training Site - <http://www.worldfabricators.com/DetailerTraining/Step2.html>
- a) Shop detail drawings
 - b) Part or fitting drawing
 - c) Erection drawing
 - Isometric



- Embed layout
- Plan
- Elevation

d) Reports

For Xsteel:

- fabtrol_assembly_parts_list..xrs
- fabtrol_drawing_list.xrs
- fabtrol_drawing_revision_list.xrs
- Assembly Part List.xrs
- Bolt Summary.xrs
- Material Summary.xrs
- Material Summary Bevel Cut.xrs
- Site Bolts P2P.xrs
- Transmittal Assembly.xrs including erection drawings
- Transmittal Single Parts.xrs

For StruCad:

- FabTrol.rep
- fabtrolboltlist.rep
- history.iss
- Assembly Part List.txt
- Bolt Summary.txt
- Material Summary.txt
- Material Summary Bevel Cut.txt
- Site Bolts P2P.txt
- Transmittal Assembly.txt including erection drawings
- Transmittal Single Parts.txt

- 17** On HSS tube or pipe splices we shop install the splice plates because the overall length can be controlled by us. Splice plates for HSS and Pipe shall be 3/4" or 1" plate cut to inside profile of member. For field splices on beam to column full penetration welds, the backing bar material is shipped loose as we can not control the erection tolerances and the backing bar may not have contact with the mating member. The erector tacks the backing bar after steel is erected and plumbed.

For AWS, the backing bar is minimum 3/8" thick. AWS allows 1/4" thick backing bars for "SMAW" and "FCAW gas shielded" but for "FCAW-self shielded", the minimum is 3/8". We do not know which process the erector will use and often the field will use "FCAW- self shielded".