

**DETAILING PREFERENCES**

PURPOSE: The purpose of this attachment is to provide basic information that the detailer will need to generate shop and erection drawings in a manner preferred by Atlas Iron Works. It is NOT meant to be a substitute for specific or referenced job specifications.

Detailing is to be in accordance with the latest version of the AISC detailing manual, and the owner's plans and specifications, with the additional comments noted below. See Atlas' job specific "DETAILING SCOPE" for any job specific instructions and Atlas' "HIGH SEISMIC DETAILING ATTACHMENT" for any projects with high seismic requirements.

Please contact Atlas in the event of any conflicts among these documents.

1. On sequenced jobs, any anchor rods, embeds, lintels and/or built-in items will be detailed starting on sheet number 1. Sequence one steel will be detailed starting with sheet number 101, sequence two with 201, etc.
2. Please detail (and submit for approval) any anchor rods, embeds, lintels and/or built-in items first, along with setting plans for same.
3. Shipping piece marks will be alphabetical, prefixed by the detail sheet number (I.E. "12A", "12B", etc.)
4. Detail piece marks will be alphabetical, suffixed by the detail sheet number that they first appear on (I.E. "a12", "b12", etc.).
  - Except where the limitations of computer-aided detailing programs will not allow this practice.
5. All holes are to have tail-figures from the left-hand end of the main material (or top-of-base-plate).
  - Except bolt holes for the splice in the lower shaft of a spliced column; which will be dimensioned from the splice-line, down.
  - Except pairs (or patterns) of holes for connections; which may have a tail-figure to the top left-most hole of the pattern and then the gage between the holes noted (I.E. --→ 7'-0", 5 ½").
6. If columns are detailed horizontally (due to length) the base-plate will be shown on the left-hand end, with tail-figures given from the left-hand end of the main material as noted above.
  - Except the lower tiers of sliced columns (see #5, above).

7. Where a "near-side" detail obscures a like "far-side" detail, the material will be billed out "2 – req'd, 1 – NS, 1- FS". A section may be cut to clarify the details if required.
8. Shipping pieces will be listed alphabetically in the bill of material with the corresponding detail pieces listed below each shipping piece.
  - Rights and Lefts of shipping pieces will be listed on separate lines, with the combined detail pieces listed below.
  - Rights and Lefts of detail pieces may be combined on the same line, except in the case of odd quantities (I.E.: "2-R, 3-L").
9. Material specifications will be listed in the bill of material.
  - Follow Atlas' "SHOP STANDARD MATERIAL" designations in cases where the design documents do not note the material specification.
  - It will be acceptable to use the "Unless Noted Otherwise" (U.N.O.) note in the title-block (I.E.: "A36 U.N.O.")
10. Any special material or fabrication required will be listed in the "notes" column of the material list (I.E.: "bent", "stainless", "A-588", etc.).
11. Atlas' "STANDARD SHOP ABBREVIATIONS" are to be used, as applicable. Any other text should not be abbreviated on the drawings.
12. Shop connections should be bolted, using "ATLAS STANDARD CONNECTIONS" and "twist-off bolts" wherever possible (Note "HEX" for any structural shop/field bolts that are NOT "twist-off").
  - Shop welding of connections should be minimized, except on galvanized jobs/pieces.
13. Plain material may be either listed in the bill-of-material, or in the body of the tracing (add references to the erection drawings as required) with the note "SEE PLAIN MATERIAL – THIS SHEET" (or similar) added in the bill-of-material.
14. Bolts in SHOP OR FIELD joint assemblies requiring fully Pre-Tensioned Bolts are to be listed in the material list (or bolt list) as "**A325-PT**" (or "A490-PT" if applicable). These are any bolts: "... *in slip-critical connections, connections subject to direct tension and fully pre-tensioned bearing connections...*" - per the Specification for Structural Joints using ASTM A325 or A490 bolts, latest edition)
15. Field bolt lists (point-to-point and/or summary, as needed) need to be completed. On "small" projects field bolts may be listed on the last detail sheet with the note "SEE LIST - FIELD BOLTS" (or similar) added in the bill-of-material.

16. Please list the shims for columns, etc. Atlas has "standard shim lists" available showing (3) stacks of 2" x 2" shims per column.
17. Please fill out the title block per the project, customer, owner, cleaning, painting, etc. information noted on the Detail Scope letter.
18. We presume the customer/owner accepts the use of the construction documents as "backgrounds" for erection drawings, unless specifically noted otherwise in the "Detail Scope" letter.
19. Assign complete welding symbols. AIW weld procedure numbers shall be added when required (by Atlas or job specifications.) NDE requirements shall also be noted on weld symbols if required.
20. When specifying the length of a weld (continuous or skip) the weld length should be shown in inches (22"), not feet and inches (1'-10") as the latter may easily be confused with a skip-weld pattern (1-10).
21. Please *use "sound detailing judgment and experience"* during your preparation of the shop details and erection drawings. Remember that the erector will most likely NOT have a complete set of the structural and/or architectural drawings at his disposal.
22. Submit checked shop details and erection drawings "for fabrication" to Atlas – with the **individual checker's initials** on the drawings. **Company initials are not acceptable.** The checker should be someone other than the detailer. Please note that it is acceptable to submit un-checked drawings for approval (only).
23. Any subsequent revisions made to the shop drawings will be "clouded" and noted with a revision number. The revised drawing's title block will also be noted with the revision number, the date and the initials of the person making the revisions. A brief description of the revision may be added, but is not required.

Please call Atlas' Project manager with any questions (314-383-7200).

### ATLAS' STANDARD SHOP ABBREVIATIONS

BT	= BENT	NS	= NEAR SIDE
B/B	= BACK TO BACK	NTD	= NOTED
BOT	= BOTTOM	OAL	= OVERALL LENGTH
CHKD PL	= CHECKERED PLATE	O/C	= ON CENTER
⌀	= CENTERLINE	O.D.	= OUTSIDE DIAMETER
C/C	= CENTER TO CENTER	OHS	= OPEN HOLES
CHK'D PL	= CHECKERED PLATE	O/O	= OUT TO OUT
CNTR	= CENTER(ED)	OPP HD	= OPPOSITE HAND
CTSK	= COUNTERSINK	OSD	= OUTSIDE DIAMETER
DIA.	= DIAMETER	OSL	= OUTSTANDING LEG
DIM	= DIMENSION	OSR	= OUTSIDE RADIUS
DWG	= DRAWING	PC(S)	= PIECE(S)
EL.	= ELEVATION	R	= RIGHT
FLT HD	= FLAT HEAD	RAD.	= RADIUS
FLG	= FLANGE	RD	= ROUND
FS	= FAR SIDE	R.H.	= RIGHT HAND
GA.	= GAGE	SECT.	= SECTION
GALV	= GALVANIZE(D)	SLH	= SHORT LEG HORIZONTAL
HBAR	= HEAT & BEAT AS REQUIRED	SLO	= SHORT LEG OUTSTANDING
HLS	= HOLES	SLV	= SHORT LEG VERTICAL
HORIZ	= HORIZONTAL	SPA	= SPACES
HVY	= HEAVY	SPECS	= SPECIFICATIONS
ISD	= INSIDE DIAMETER	SQ	= SQUARE
ISR	= INSIDE RADIUS	STD	= STANDARD
L	= LEFT	SYM.	= SYMMETERICAL
L.H.	= LEFT HAND	T&B	= TOP AND BOTTOM
LLH	= LONG LEG HORIZONTAL	THRD	= THREAD(ED)
LLO	= LONG LEG OUTSTANDING	TYP.	= TYPICAL
LLV	= LONG LEG VERTICAL	UNO	= UNLESS NOTED OTHERWISE
LTH	= LENGTH	UN NTD	= UNLESS NOTED
MAX	= MAXIMUM	VERT	= VERTICAL
MIN	= MINIMUM	W.P.	= WORK POINT

Minimum Material Grades for Atlas Iron Works and Atlas Mezzanines

Item	Spec	Notes
Wide Flange	A992	
Channels, plates bars and L's	A36	
HSS (tubes)	A500grB	
HSS (pipes)	A500grB	equivalent to A53B except not pressure tested
High Strength Bolts	A325	
bolts (hex head)	A325	
bolts (twist off)	A325	(technically F1852)
nuts	A325	(technically A563-grade A325 Type 1)
flat washers	A325	(technically F436)
Mild Steel Bolts		
bolt	A307	
nut	A307	
flat washer	A307	
Shear Connectors	A108	
Anchor rods	F1554	acceptable for all anchor rods; grade 36
hooked	A36	Equivalent to F1554 grade 36
straight	A36	Equivalent to F1554 grade 36
headed	A307	Equivalent to F1554 grade 36
Nuts	A563	Heavy Hex for all A325 or greater bolts
Washers	F436	
Expansion anchors		
wedge anchor	AISI 1010	
sleeve anchor	AISI 1010	
Threaded rods for epoxy	A36	
all thread	A193	
Galvanizing	A123	

8/31/2007

ATLAS IRON WORKS  
4020 GERALDINE AVENUE  
ST. LOUIS, MO 63115

STANDARD 1" SHIM PACK

CUSTOMER: \_\_\_\_\_

JOB# \_\_\_\_\_

PROJECT: \_\_\_\_\_

DATE: \_\_\_\_\_

\_\_\_\_\_ COLUMNS

x (1) x (3) STACKS/COL = \_\_\_\_\_ 2 x 1/8" BAR x 0'-2"  
x (2) x (3) STACKS/COL = \_\_\_\_\_ 2 x 3/16" BAR x 0'-2"  
x (1) x (3) STACKS/COL = \_\_\_\_\_ 2 x 1/4" BAR x 0'-2"  
x (1) x (3) STACKS/COL = \_\_\_\_\_ 2 x 1/2" BAR x 0'-2"

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*-----*
| MATERIAL FOR (1) STACK (REFERENCE) |
|                                     |
| (1) 2 x 1/8" BAR x 0'-2"          |
| (2) 2 x 3/16" BAR x 0'-2"          |
| (1) 2 x 1/4" BAR x 0'-2"          |
| (1) 2 x 1/2" BAR x 0'-2"          |
|-----|
|               1 1/4" TOTAL PER SHIM PACK               |
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MATERIAL (3 STACKS/COL) = 4.25#/COL x \_\_\_\_\_ COLS = \_\_\_\_\_ #