HOLLOW METAL FRAMES

A Division of
HOLLOW METAL MANUFACTURERS
ASSOCIATION
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ARCHITECTURAL METAL MANUFACTURERS
This manual was developed by representative members of the Hollow Metal Manufacturers Association Division (HMMA) of the National Association of Architectural Metal Manufacturers (NAAMM) to provide information and guidance on the selection of hardware for hollow metal doors and frames. This manual contains advisory information only and is published as a public service by NAAMM and its HMMA Division.

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HOLLOW METAL FRAMES

The prime functions of the door frame are to hold the door and its controls in the opening, and to trim the opening. But frames often serve other esthetic or functional purposes also, such as trimming a wall opening having no door, or enclosing glazed areas that provide through-wall visibility or admitting light and/or air. Hollow metal frames, which are strong, sturdy and durable, serve all such functions economically.

The variety of configurations available in custom hollow metal frames is virtually unlimited. Illustrated below are some of the more common and representative types and on the following pages are shown the typical details of frame construction and assembly.

FRAME OPENING TYPES

- Cased Opening
- Single Door
- Pair of Doors
- Mullion Frames
- Borrowed Lights
- Special Frames
- Transom Frames
- Without Transom Bar
- With Transom Bar
- Glass or Panel
- Flush Panels
- Optional
- Muntins Optional in All Types
- Mullion Optional
- Muntins Optional, All Types
- May Be Removable
- Made to Architect's Design
- Consult Mfr. For Limitations
- Multiple Opening Frames - May Be Made for Windows Only, With No Door Opening
BASIC DOOR FRAME PROFILES AND THEIR PARTS

VERTICAL FRAME DIMENSIONS

HORIZONTAL FRAME DIMENSIONS
TYPICAL BACKBEND OR PLASTER STOP PROFILES

MINIMUM FLANGE WIDTH—5/16" (FOR 18 GA.)
BACKBENDS NEED NOT BE THE SAME ON OPPOSITE TRIM FACES — ANY COMBINATION MAY BE USED

REPRESENTATIVE FRAME PROFILES

ANY FACE AND BACKBEND PROFILE

CASED OPENING BLANK JAMB

FRAMEDEPTH TO FIT ANY WALL THICKNESS OR FINISH
ANY FACE PROFILE MAY BE COMBINED WITH ANY BACKBEND PROFILE

SOPLOYED JAMB DRYWALL

REPRESENTATIVE FRAME PROFILES
MANY OTHER DESIGNS AVAILABLE — OR MAY BE SPECIALLY MADE TO ARCHITECT'S DESIGN
TYPICAL FRAME ASSEMBLY

CUTOFF (SANITARY) STOPS

| 90° CLOSED END |
| 45° CLOSED END |
| FLOOR LINE |

ADJ USTABLE FLOOR ANCHOR

HEAD FOR REINFORCEMENT METHODS SEE PAGE 4
FOR CORNER ASSEMBLY METHODS SEE PAGE 5

STD. CLOSER REINFORCEMENT (IF CLOSER USED)
HINGE JAMB
STRIKE JAMB
HINGE CUTOUT & REINFORCEMENT
FOR DETAILS OF HARDWARE PREPARATION S/P PAGE 8
STRIKE CUTOUT & REINFORCEMENT
SPREADER (TEMPORARY BRACE)

TYPICAL FRAME ASSEMBLY
STANDARD FLOOR ANCHOR
COMMON TYPES OF JAMB ANCHOR FOR PRE-SET FRAMES

1. STRAP AND STIRRUP
2. WIRE LOOP
3. T-STRAP
4. METAL WIRE STUD
5. SOLID PLASTER
6. METAL CHANNEL STUD
7. WOOD STUD 1
8. WOOD STUD 2
ANCHORAGE OF FRAMES IN PREPARED OPENINGS

EXPANSION SHELL

EXPANSION SHELL WITHOUT REMOVABLE STOP

PIPE SPACER

FRAMES WITH ROUGH BUCK

CABINET JAMB FIELD ASSEMBLED

SPLIT JAMB PRE-ASSEMBLED

FLOOR STILT AND FIXED MULLION ANCHOR

TERRAZZO OR OTHER BASE MTL.

FLOOR STILT

FIXED MULLION ANCHOR
SPATS

- Light gage stainless steel wrap around covering
- Stainless steel same thickness as frame and flush with all jamb surfaces

MAY BE USED WITH EITHER CUT-OFF OR FULL LENGTH STOPS.

CEILING STRUTS

- Anchored to overhead construction
- Frame 4 PA
- Alternate channel strut
- Frame head

HEAD REINFORCEMENT

- 1 1/2" x 1/2" x 12 ga. or structural angles
- 12 or 14 ga. channel

USED ON WIDE OPENINGS TO PREVENT DEFLECTION AND POSSIBLE INTERFERENCES WITH DOOR OPERATION. SHOULD NEVER BE USED IN PLACE OF STRUCTURAL INT'L.

HEAD ADAPTER

- For frames extending from slab to slab

SOUND BARRIER FRAME

- Adjustable gasket
- Door

LEAD-LINED FRAME

- Lead lining in frame provides barrier to x-rays, which travel in straight line, in gap between lead-lined wall and door
DETAILS OF DOUBLE EGRESS FRAME

KEY ELEVATION

PRE-ASSEMBLED WELDED FRAMES - REPRESENTATIVE CORNER JOINT DETAILS

SAW-MITERED AND FULL (CONTINUOUSLY) WELDED

MACHINE-MITERED AND FULL WELDED

ALL EXPOSED WELDS GROUND AND FINISHED SMOOTH
MACHINE-MITERED, FACES ONLY WELDED (diagram missing)

MACHINE-MITERED FACES MITERED, STOPS BUTTED

SAW-MITERED OR "FULL-MITERED" (METHOD A)

MACHINE-MITERED FACES MITERED, STOPS BUTTED (METHODS B & C)

METHODS OF JOINING FACES OF UNEQUAL WIDTHS

METHODS OF JOINING FACES OF UNEQUAL WIDTHS
FIELD-ASSEMBLED (DRY-WALL) FRAMES - TYPICAL ASSEMBLY DETAILS

BUTTED AND FACE-WELDED ASSEMBLY JOINTS

MULLION TO HEAD

MULLION TO BASE

RAILS TO MULLION

MULLION TO BASE

MULLIONS SHOULD BE EXTENDED THROUGH TO FLOOR, TO CARRY LOADS
ANCHOR FOR REMOVABLE MULLION

FIELD SPLICES FOR LARGE MULTI-OPENING FRAMES

TO FACILITATE HANDLING AND/OR SHIPPING, LARGE FRAMES ARE PREPARED IN THE SHOP FOR FIELD SPlicing.
TYPICAL DETAILS OF FRAMING MEMBERS, ASSEMBLY AND ANCHORAGE

Note: Mullion clips same gage as frames based 24” o.c. max.

MULLION SECTIONS

INTERIOR BASE (OR SILL) SECTIONS

STIFFENERS (CHANNEL, ANGLE, OR HAT SECTIONS) RECOMMENDED FOR SILL FACES OVER 6” HIGH

INTERIOR BASE (OR SILL) SECTIONS
TRANSOM PANEL FRAMES WITHOUT TRANSOM BARS

ALTERNATIVES -SECTION A- HOLLOW METAL PANELS

KEY ELEVATION

ELEVATION CLOSER CHANNEL

ALTERNATIVES -SECTION B

HOLLOW METAL PANELS

FILLER ON, EXT. DOORS, OPTIONAL ON OTHERS

HOLLOW METAL DOORS
ALTERNATIVES - SECTION A - WOOD PANEL

PANEL NOT REMOVEABLE

METHODS PERMITTING REMOVAL OF PANEL

VERTICAL PANELS

Panel slipped vertically into place and supported at bottom edge as shown in Detail 5a, 5b, or 5c.

TYPICAL HARDWARE PREPARATIONS

STANDARD HINGE PREPARATION