

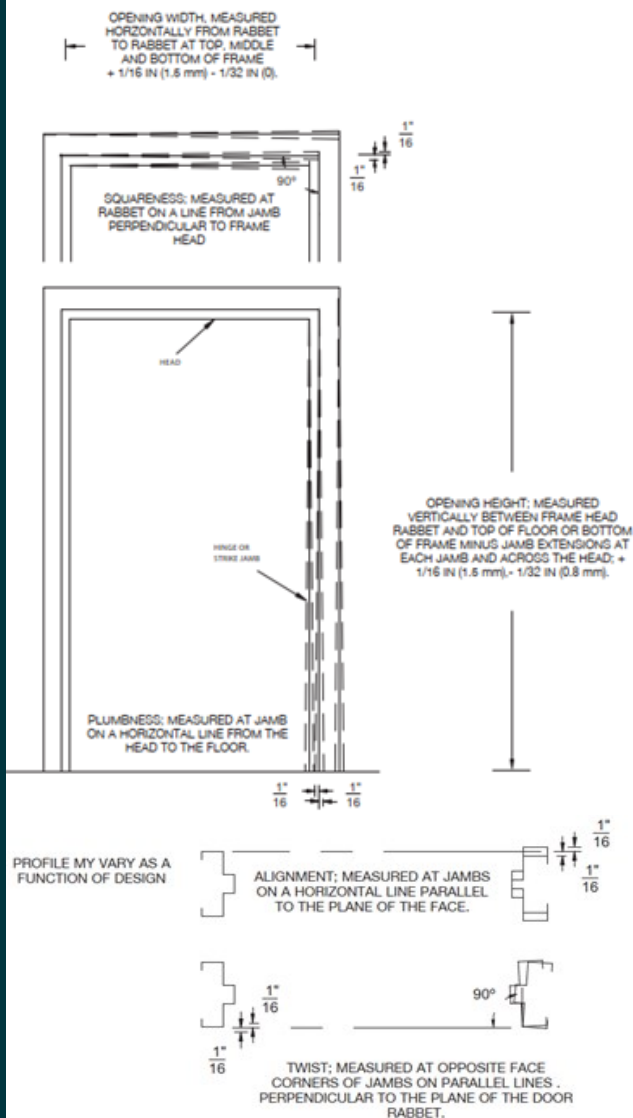
Our specifications typically reference ANSI/NAAMM HMMA 840 for the Receipt, Storage, and Installation of Hollow Metal Door Frames. This three-part Quality Bulletin Series will review three specific items in the referenced standard.

The third of the three topics is the TOLERANCE OF HOLLOW METAL DOOR & FRAMES. Understanding the allowable tolerances for installation will allow for a better project. The hollow metal door and frames' tolerance is clearly spelled out in the HMMA840 standard, most manufacturer installation instructions, and, typically, in the project specifications.

Corey S. Zussman, AIA, NCARB - QA/QC Vice President

## The following tolerances provide a guideline for proper installation of hollow metal frame and doors:

- Cumulative effect of the installation tolerances at or near their maximum levels could result in misalignment of the door from functioning properly.
- Installers should keep these installation variances as close to zero as possible.



- Verify the area of the floor where the door frame is being installed and the path of the door swing for flatness and levelness. Tolerance is  $\pm 1/16"$ .
- During the installation of the frame, check the opening width, opening height, squareness, alignment, twist and plumbness. Permissible frame product installation tolerances are to be maintained within the following limits.
- Opening width – Measured horizontally from rabbet to rabbet at top, middle and bottom of frame;  $+ 1/16"$ ,  $-1/32"$ .
- Opening height – Measured vertically between the frame head rabbet and top of floor or bottom of frame minus jamb extension at each jamb and across the head;  $+ 1/16"$  –  $1/32"$ .
- Squareness – Measured at rabbet on a line from jamb, perpendicular to frame head; not to exceed  $1/16"$ .
- Alignment – Measured at jambs on a horizontal line parallel to the plane of the face; not to exceed  $1/16"$ .
- Twist – Measured at opposite face. Corners of jambs on parallel lines, perpendicular to the plane of the door rabbets; not to exceed  $1/16"$ .
- Plumbness – Measured at jambs on a perpendicular line from the head to the floor; not to exceed  $1/16"$ .
- Door tolerances are the following and also in NFPA 80 for fire-rated door assemblies.
- Between door and frame at head and jamb.  $1/8$  in.  $\pm 1/16"$ .
- Between edges of pairs of doors.  $1/8$  in.  $\pm 1/16"$ .
- Floor clearance for fire-rated swinging hollow metal doors must not exceed  $3/4$  in. Floor clearances provide for the functional operation of all swinging hollow metal doors and should not be less than  $1/8"$ .