Plasti-Fab® INC.

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STOP GATE / STOP PLATE

Stop Gate and Stop Plate are terms used interchangeably to identify manually lifted gates that are installed in open channels. These gates do not have a threaded stem or lifting mechanism. Typically, Stop Gates under 3' wide will have one handhole or handle for lifting. When gates are 3'-O" or wider it is common to see two lifting points.

Smaller gates or gates with a balanced (equalized) head can usually be raised by hand. Larger gates, and gates with unbalanced head often require a mechanical lifting device such as a davit crane or winch.

Stop gates are identified by the size of the clear opening to be covered. It is an industry practice to list the gate width first, followed by its height, i.e. 2-6" wide X 3'-0" high. At times gates are requested that have a round or trapezoidal bottom design. These are also available from Plasti-Fab.

LOCATION Common locations for Stop Gates include: treatment plant headworks, bypass channels, aeration basins, diversion boxes and manholes, lagoons, aeration ponds, prechlorination, siphon structure and drainage or flow control structures.

STOP GATES Plasti-Fab builds fiberglass Stop Gates. Stainless steel or aluminum gates may be quoted in certain competitive situation.

Fiberglass Stop Gates will take one of three forms:

a. Solid 1" thick FRP: - only available from Plasti-Fab. Usually designed to meet deflection of *l*/180, rugged looking and virtually indestructible.

b. Sandwich Construction: This is the FRP gate most people think of first. It is typically *1/4"* or 3/8" thick at the edge and has a built-up urethane foam core to give it strength. The normal deflection standard seen in specification is L/360. Internal steel reinforcing may be used to meet deflection requirements.

c. Copolymer or Heavy Duty Stop Gate: Designed specifically to bid against Ashbrook CopIastix. These gates will range in thickness from 2-1/2" to 6-1/2" and are usually reinforced with an internal structural steel matrix. Deflection requirements may range from L/360 up to L/1000 depending on the application and engineer's preference. Plasti-Fab has built Heavy Duty Gates as large as 8 ft. X 10 ft. Guides are usually formed stainless steel channel, but FRP is also used.

d. Aluminum is subject to electrolysis and other chemical corrosion. If aluminum gates are quoted, the guide will be fiberglass. The fiberglass guide protects against bi-metallic corrosion problems and is not affected by electrolysis or corrosion by the concrete.

GUIDES Embedded, Surface Mounted or In-channel Mounted: Surface mounted guides bolt to the face of a wall around anopening. In-channel mounted guides bolt to the inside surface of an existing channel, and reduce the internal width and depth of the channel. Embedded guides can either be attached to the concrete form and encased with the wall pour, or they may be grouted into a pre-formed blockout after a wall has been poured. The Plasti-Fab guides are manufactured by the pultrusion process using polyester or vinyl ester resin and a synthetic surface veil for good corrosion resistance.

SEALS Sealing capability is greatly dependent on the amount of water pressure or head, pushing the gate against the seating surfaces. In wastewater plants the amount of debris and fiber in the water also helps to clog leaks. There are no published leakage standards for Stop Gates. However, you will sometimes see the AWWA sluice gate standard incorrectly quoted. Most locations needing stop gates do not have strict leakage requirements. When leakage is a concern a number of seal designs are available. The most common is the side mounted neoprene J-seal and a neoprene flush bottom seal. The flush bottom seal keeps debris out of the bottom guide groove and is common in plant headworks where there is a lot of grit and debris.

WHY BUY PLASTI-FAB?

1. Plasti-Fab offers a broad selection of gate styles, and will custom design to meet special requirements.
2. Plasti-Fab has more than 25 years of experience with design and installation of fiberglass gates.
3. Fiberglass provides superior corrosion resistance to the widest range of acids, caustics, and most other aggressive environments.
4. The fiberglass gate will not bend or warp and the surface will not pock or bloom as often seen with aluminum.
5. Other Special Applications and Designs to Consider:
    a. Round bottomed gates.
    b. Weir Gates or Proportioning Gates
    c. Screening Gates.
    d. Special Wedging and Top Closure Gates.
    e. Large volume damper gates in FRP ducting and pipe.
    f. Control gates for flowable bulk solids.

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