

Part 642 – Specifications

Chapter 3 – National Standard Material Specifications

Material Specification 573—Radial Gates

A. Scope

This specification covers the quality of radial (Tainter) gates for water control.

B. Quality of Material

- (1) Material in radial gates and appurtenances shall conform to the requirements of the applicable specifications listed below for the alloy, grade, type, or class of material and the condition and finish appropriate to the structural and operational requirements:

Material	ASTM specifications
Cast iron	A48, Class 30 A126, Class B
Cast steel	A27 or A148
Structural steel shapes, plates and bars	A36
Carbon steel bars	A108 or A575
Stainless steel	A240, A276, A269, A582; Type 302, 303, 304, or 304L
Zinc-coated steel sheets	A653 or A924
Bronze bar, rods, shapes	B21 or B98
Cast bronze	B584

- (2) Galvanizing (zinc coating) shall conform to the requirements of Material Specification 582.

C. Gates

Unless otherwise specified, the gates shall be fabricated from structural steel with skin plates made of smooth or corrugated iron or steel sheets. They shall conform to the dimensions shown on the drawings and shall be built to withstand the specified head. The curvature of the skin plate shall be concentric with the pivot pins or trunnions. Gates shall be supplied with pin bearings, pins, hoist, galvanized hoisting cable, and all anchor bolts. Unless otherwise specified, the pin bearings shall be cast iron and of the embedded type.

D. Hoist

Hoists shall be of the worm-gear type and shall be equipped with hand crank or be power operated as specified on the drawings. Hoists shall be furnished complete with all lubricants, anchor bolts, and other appurtenances necessary for their installation and operation.

E. Rubber Seals

Each gate shall be fitted with rubber seals along the side and bottom edges of the gate face. The seals shall be of the belt type or J type, as specified, and shall be designed to bear on the walls and bottom of the structure or on rubbing plates and sills to ensure a watertight fit when the gate is closed. When specified, a rubber seal shall also be provided at the top edge of the gate.

F. Installation Instructions

Before gate installation, the contractor shall provide the engineer with the manufacturer's complete installation data, instructions for adjustments and drawings, or templates showing the location of anchor bolts and pin bearings for each gate.

G. Painting

Gates and accessories shall be galvanized or painted with the specified paint system.

H. Certification

The supporting data submitted to the engineer shall include the manufacturer's name and the hydraulic head for which the gate is designed together with such drawings and specifications as may be necessary to show that the gate conforms to the requirements of this specification.