

## 1625 - CAST BRONZE PRODUCTS

### SECTION 1625

#### CAST BRONZE PRODUCTS

##### 1625.1 DESCRIPTION

This specification governs products for various applications cast from copper alloys generally classified as bronze.

##### 1625.2 REQUIREMENTS

**a. General.** Provide castings that comply with the design, dimensions, requirement for supplemental corrosion protection, and specific fabrication requirements as specified in the Contract Documents. Unless corrosion protection is specified, provide the cast products in the as-cast and as-machined condition.

Bridge number plates are to be of the design and dimensions as specified in the Contract Documents and cast from a copper alloy identified in **subsection 1625.2b.** as a type to be utilized for general purpose castings. Relief cast the background of the plate relative to the letters, numbers, and border. Make the surfaces of the letters, numbers, and border lie in a single plane and polish them. Provide a relief from plane to background of about 1/8 inch. Make letters and numbers of the condensed Roman style approximately 1 ½ inches in height. Provide a matte non-reflective surface texture for the background. Coat the finished plates for corrosion protection with a clear organic coating that is durable and ultraviolet resistant.

**b. Material Specifications.** The copper alloy utilized for bearing devices where the nominal contact pressure does not exceed 2500 psi, e.g., bridge bearing plates, complies with ASTM B 22, Copper Alloy UNS No. C91100.

The copper alloy utilized for bearing devices where the nominal contact pressure does not exceed 1000 psi is to comply with ASTM B 22, Copper Alloy UNS No. C93700.

Other copper alloys governed by ASTM B 22 may be utilized providing the KDOT grants prior approval.

Use copper alloys for general purpose castings with a minimum copper content of 80%, and enhanced castability for the production of accurate castings with a high quality surface finish and a low level of discontinuities.

Avoid beryllium copper alloys if at all possible. If they must be utilized, it is the manufacturer's responsibility to provide adequate warnings concerning the high toxicity of beryllium released to the atmosphere and potentially ingested during machining, grinding, welding, etc. operations. It is also the manufacturer's responsibility to document the precautionary procedures required to avoid exposure to beryllium if these operations must be conducted.

##### 1625.3 TEST METHODS

Not applicable.

##### 1625.4 PREQUALIFICATION

Not applicable.

##### 1625.5 BASIS OF ACCEPTANCE

Receipt and approval of a Type D certification as specified in **DIVISION 2600.**

Inspection by field personnel of all products and components for compliance with dimensional and supplemental corrosion protection coating requirements when corrosion protection is specified, quality of workmanship, delivery condition, approval of the required associated documentation, and any other requirements as may be specified in the Contract documents.