



ZINC-BASE SLUSH CASTING ALLOY (ZA-5)

a technical service of *eastern alloys, inc.*

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The slush casting alloy was developed to provide a high fluidity casting material capable of producing good surface definition when cast in metal permanent molds or rubber molds. Its use is primarily for decorative plated castings.

Nominal Composition:

Zn - 5½% Al

Typical Uses:

Primarily for decorative castings not subjected to high stress conditions, such as lamp bases. Castings are normally produced in metal permanent molds either as hollow (slush) castings or solid permanent mold castings. Small jewelry components are often cast in rubber molds using this alloy. The castings machine and polish well, taking a high luster. The alloy offers excellent platability and plating is the most frequently used finishing technique for decorative castings.

Properties:

Ultimate Tensile Strength	25,000 psi (chill cast)
Elongation	1%
Impact Strength	1 ft-lb
Melting Range	716-743°F
Density	0.24 lb/cu in

Casting Practices:

Because of the low melting temperatures and excellent fluidity, the alloy should be cast at temperatures not to exceed 825°F. Since the alloy is normally melted and held in cast iron kettles, high temperatures will cause excessive iron pickup resulting in poor castability and poor finishing characteristics.

General Comments:

Since the alloy contains no Magnesium (to ensure high fluidity) extreme care must be taken to prevent contamination by Pb, Sn or Cd which can cause subsequent intergranular corrosion. Castings are normally plated soon after finishing to preclude any oxidation or corrosion problems.

For stressed, engineered components EA's high strength ZA foundry alloys are preferred. (Write for data on ZA-12, ZA-27 & ZA-8).