FREE-CUTTING LEADED BRASS, 25 KSI (172 MPA) YIELD, STANDARD PUMP PRODUCTS

Rev	Reason of Change	Date	Made By	Reviewed By	Approved By	Status
0	Initial release	28-02-2018	MN	AS	KKD	Released

Summary:
This specification covers Free-Cutting Leaded Brass (UNS C36000) that will be used for Standard Pump Products, Round and Hex Bar.

1.0 Scope

This specification covers Free-Cutting Leaded Brass (UNS C36000) that will be used in Standard Pump Products to meet Environmental Regulations.

2.0 Reference Specifications

Document	Description
ASTM B16/B16M	Standard Specification for Free-Cutting Brass Rod, Bar, and Shapes for use in Screw Machines

3.0 Chemical Requirements

The chemical composition shall meet the requirements listed in Table 1.
Table 1: Chemical Composition (All are maximums unless otherwise specified)

Elements	Wt. Percentage (%)
	UNS C36000
Copper	60 - 63
Lead	2.5 - 3.0
Iron	0.35 Max.
Other	0.50 Max.
Zinc	Remainder

4.0 Mechanical Properties

The material shall meet the mechanical properties listed in Table 2. Material is to be Half-Hard (H02) condition with modified mechanical properties that are uniform for all bar sizes.

Table 2: Mechanical Requirements (all values are minimums unless otherwise noted)

Diameter or Distance Between Parallel Surfaces	Tensile Strength, min	Yield Strength at 0.5% Extension Under Load, min	Elongation 4x Diameter of Thickness, min
1.000 and under	50 ksi	25 ksi	10%
over 1.000 to 2.000, inclusive	45 ksi	17 ksi	15%
over 2.000 to 6.000, inclusive	40 ksi	15 ksi	20%

5.0 Heat Treatment

Material shall be in the condition to meet the mechanical properties specified in Section 4.0.

6.0 Weld Repair

Repair by welding is not acceptable.

7.0 Workmanship

Material shall be inspected in accordance with part report (DBI). Material shall be free of injurious defects that are detrimental to the integrity of the final product, such as laps, scabs, cracks and exogenous inclusions.