FEDERATED No. 7 BEARING ALLOY

NOMINAL COMPOSITION

Lead.....75%
Tin.....10%
Antimony.....15%

MANUFACTURING LIMITS

Lead.....74.0 –76.0%
Tin..... 9.25–10.75%
Antimony.....14.0 –16.0%
Copper..... 0.50% Max.
Arsenic..... 0.20% Max.
Zinc..... None*
Aluminum..... None*

*Defined as 0.005% as determined on a 10 gram sample.

PROPERTIES

Solidus Temperature.....	240°C.	464°F.
Liquidus Temperature.....	268°C.	514°F.
Approx. Pouring Temperature...	345—400°C.	650—750°F.
Specific Gravity.....	9.7	
Weight per cubic inch...	0.350 lbs.	

BRINELL HARDNESS (B.H.N.)

Tested with a 10 mm. ball and a 500 kg. load applied for 30 sec.

	At 86°C.		At 302°C.		
As Cast	After 7 days at 302°F.	After 46 days at 302°F.	After 17 hours at 302°F.	After 7 days at 302°F.	After 46 days at 302°F.
22	—	16	8.0	7.0	5.8

TENSILE STRENGTH (in Psi.)
ELONGATION (in 2" in percent)

At	77°F.	212°F.	302°F.	392°F.
T. S.	10,500	5,500	3,000	1,250
E.	4	25	52	100

COMPRESSIVE STRENGTH
At room temperature at 10% reduction in height under load... 17,150 psi.

FATIGUE STRENGTH, Rotating Beam Test at room temperature
20,000,000 cycles at 2,000 cycles per minute..... 4,000 psi.

This alloy is similar to the following specifications:
A.S.T.M. Spec. B23-26 Grade 7
Federal Spec. QQM161 Grade 7
U. S. Navy Dept. Spec. 46M2 Grade 7
SAE 14