

ENGINEERING BRIEF

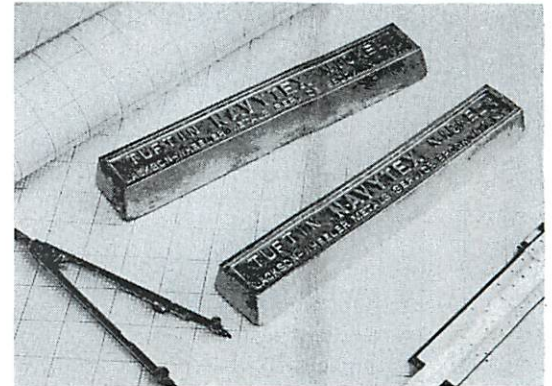


Alloy: NAVYTEX NICKEL

Series: TUFTIN

Type: High Tensile, Shock Resistant, Tin base, Lead-free, Nickel-Copper Toughened.

Form: Ingot—weighing appr. 3 pounds each, packed in lock-cornered, iron-strapped wooden cases of 56 and 112 pounds net.



Physical Properties

Brinell Hardness No.	27.6
Compression Strength	22,350 lbs.
Tensile Strength	18,450 lbs.
Pouring Temperature Range	775-850 degs. F.
Weight—In Ozs. per Cu. In.	4.27 Ozs.

Performance Characteristics

TUFTIN NAVYTEX NICKEL ALLOY is a high Tin base, Lead-free Bearing Alloy designed especially for shock load applications of the type encountered in marine work. It is toughened and made heat resistant by the addition of pure Nickel, in correct proportion, to its Tin, Copper, Antimony matrix. Permanent, uniform dispersion and integration of the Nickel component is achieved by a unique Crucible method of induction. Only Virgin metals are used in NAVYTEX. This ideal combination of purity, Nickel inclusion, correct proportioning and Crucible Alloying make NAVYTEX a top performer and very easy to use. It may be gravity, die or centrifugally cast or 'brazed.' Other desirable performance characteristics possessed by NAVYTEX to an exceptional degree are:

Bondability—readily forms a chemical bond with a properly prepared bearing back.

Tensile Strength—resists cracking or extruding.

Low Coefficient of Friction—reduces power factor.

Thermal Recovery—resists softening at elevated temperatures.

Thermal Dispersion—transfers heat quickly and uniformly.

Conformability—adjusts to misalignments

thereby increasing bearing area.

Fine Grain—will not score, mar or seize journal.

Chemical Neutrality—will not corrode from oil additives.

Stability—can be remelted and used without loss of properties.

Handling Ease—can be poured, 'brazed' with a torch or centrifugally cast using standard equipment and procedure. Is easily machined to close tolerances.



Sole Makers

JACKSON-WHEELER METALS SERVICE, INC.

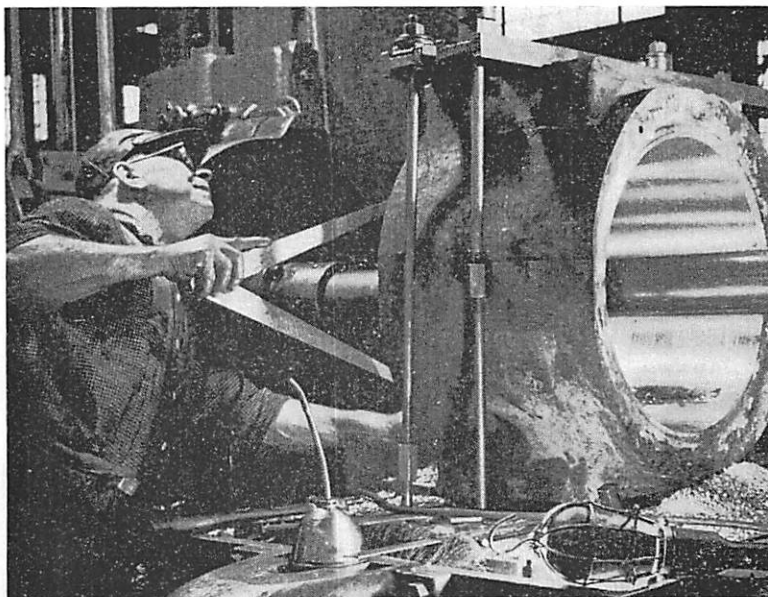
Pouring Directions

- * Do *not* mix other metals with **NAVY-TEX**.
- * Use clean pot and ladles.
- * Cover pot with charcoal—about one-half inch chunks—to exclude air and to prevent formation of wasteful dross.
- * Do *not* skim pot—**NAVYTEX** is made from Virgin metals only and contains no impurities.
- * Stir thoroughly—up and down, not around—to insure uniform heating of alloy.
- * Pour at from 775-850 degs. F. If no pyrometer is used, heat to brown darkly a white pine stick.
- * Pre-heat bearing box and mandrel to evaporate all moisture thus insuring proper bond. (Temperature should be about 300 degs. F. or hot enough to "sizzle" water—450 degs. F. if box is tinned.)
- * Have work and melting pot close together to minimize cooling of alloy in transfer from pot to bearing.

Typical Applications

High tensile strength, heat resistance (derived from its Nickel inclusion), excellent bonding ability, close machinability and dense, fine grain structure make **TUFTIN NAVYTEX NICKEL ALLOY** ideal for all precision bearings operating at high speeds and alternating impact loads. **TUFTIN NAVYTEX NICKEL ALLOY** delivers superb performance and efficiency in such applications, of which the following is a representative list.

Machinist using inside calipers to gage finish cut to be taken on 19" diameter heavy-duty precision marine bearing lined with **TUFTIN NAVYTEX NICKEL ALLOY**.



Compressors (Air, Ammonia)—main & connecting rod bearings.

Diesel Engines (Marine, Stationary)—main & connecting rod bearings.

Engines (Stationary Steam)—main, crank-pin, crosshead, eccentric strap & outboard bearings.

Locomotives (Steam)—main & side rod

boxes, driving boxes, valve rod boxes, cross-head guides.

Marine Bearings — Kingsbury propeller thrust bearings, Reduction gear, Stern tube & Outboard bearings, Centrifugal & Reciprocating pumps, Blowers, Compressors, Fans, Electric generator sets.

Sugar Cane Machinery—Plunger & Vacuum type pumps.

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