

# Subsea

Ver.	Status	Issue date	Made by	Checked by	Approved by
01	Re-issued Constr	2013.10.10	HASIBUAN, ERVINA	ENG, SUWAR	GANEFRIYANTO, ANDREAS
Originator:		CONVERSION			

## MS-480:ALUMINIUM BRONZE, 50 KSI Yield, ASTM B 150

**10000096383-PDC-000**

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## 1. SCOPE

This specification is for heat treated Aluminium - Bronze Alloys where anti-galling and moderate strength characteristics are required.

## 2. REFERENCE DOCUMENTS

ASTM B 150  
Hoyt, Samuel. "Metal and Alloys Data Handbook", Pg. 236

## 3. SUB TIER

N/A

## 4. MATERIAL

Aluminum Bronze - ASTM B 150 - 90 (UNS Alloy No. C-63000)

## 5. CHEMISTRY (wt%)

<u>Al</u> 9.0/11.0	<u>Fe</u> 2.0/4.0	<u>Ni (incl. Co)</u> 4.0/5.5	<u>Cu</u> Balance	<u>Mn</u> 1.5 Max
<u>Si</u> .25 Max	<u>Sn</u> .20 Max	<u>Zn</u> .30 Max		

## 6. PHYSICAL PROPERTIES

Test specimens shall be taken from representative material of the same heat that has been processed in a similar manner. Tests shall be conducted in accordance with ASTM E8.

Tensile strength, min.-----	100,000 psi (690 MPa)
Yield strength, min.-----	50,000 psi (345 MPa)
Elongation in 4 x dia, min.-----	10%
Hardness -----	200 -220 HBW

## 7. HEAT TREATMENT

Temper designation TQ50 per ASTM B 150 for material above 3" diameter/thickness but not to exceed 5" diameter/thickness.

Temper designation HR50 per ASTM B 150 for material 3" diameter/thickness and under.

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## 8. NDE

N/A

## 9. MATERIAL CERTIFICATION

The vendor shall furnish a certified chemical analysis of each heat along with a certified record of the physical properties and certification of the heat treatment used.

## 10. REPAIR BY WELDING

If repair by welding is necessary, vendor shall obtain prior approval on each such occasion. Repairs shall be made using procedures previously approved and qualified in accordance with Section IX of the ASME Boiler and Pressure Vessel Code. Welders and welding operators shall also be qualified per the above specification.

## 11. QUALITY

The surface of the components shall be examined visually and be free of laps, seams, folds, cracks or other injurious defects.