MATERIAL DATA SHEET MDS K01 Rev. 2

TYPE OF MATERIAL: Copper/Nickel 90/10

PRODUCT	***STANDARD***	***GRADE***	***ACCEPT. CLASS***	***SUPPL. REQ.***
Sml pipes & tubes	ASTM B 466	UNS C70600	-	-
Welded pipes	ASTM B 467	UNS C70600	-	-
Rod & bar	ASTM B 151	UNS C70600	-	-
Plates & sheets	ASTM B 171	UNS C70600	-	-
Fittings	-	UNS C70600	-	-
Flanges	-	UNS C76000	-	-

1.SCOPE	This MDS specifies the selected options in the referred standard and additional requirements which shall be added or supersede the corresponding requirements in the referred standard.
2.DESIGN AND DIMENSIONAL STANDARDS	The following EEMUA standards for: "90/10 Copper/Nickel Piping for Offshore Applications" shall be used: - EEMUA Publication No. 144: "Tubes, Seamless and Welded". - EEMUA Publication No. 145: "Flanges, Composite and Solid ". - EEMUA Publication No. 146: "Fittings ".
3. MATERIALS	Materials for fittings and flanges shall comply with the above listed standards and this MDS.
4. MANUFACTURING PROCESS	*Forming:* Cold forming or hot forming may be used according to written procedures established in cooperation with the material manufacturers. *Welding:* An electric fusion welding process shall be used.
5. HEAT TREATMENT/ DELIVERY CONDITION	*Hot formed components:* Parts hot formed in the temperature range of 760 - 800 °C do not need annealing after forming. *Cold formed components:* Annealed. *Welded components:* Annealed, but acceptable as welded from annealed materials.
6. CHEMICAL COMPOSITION	For subsequent welding the chemical composition shall be modified as stated: Zn ≤ 0.50 %, Pb ≤ 0.02 % and C ≤ 0.05 %.
7.EXTENT OF TESTING	Tensile test specimens shall be taken from each lot. A lot is defined as all products of the same type and nominal size, which are produced from the same heat of material and subject to the same finishing operation.
8.TEST SAMPLING	Samples for production testing shall realistically reflect the properties in the actual components. Test samples shall be cut from the products themselves. Sacrificial components or over length on the components may be used. Sketches shall be established showing type, size and location of test samples and extraction of test specimens.
9.WELDING	Welding procedures shall be established and qualified in accordance with ASME IX.
10. NON DESTRUCTIVE TESTING	*Welded Pipes to B 467:* - Sch 10S: Welded pipes shall be spot radiographed to the extent of not less than 12 in. (300 mm) per 50 ft (15 m) of weld. - Other sizes: All welds shall be 100% radiographed. The radiographic testing shall be in accordance with the requirements of the ASME Section VIII, Div. 1, Paragraph UW-51 and UW-52 for 100 % and spot check tested respectively.
11. HYDROSTATIC TESTS	*Sml. pipes & tubes to B 466 and Welded pipes to B 467:* - Each length of finished pipe shall be subjected to the hydrostatic test in accordance with ASTM A 530.
12. CERTIFICATION	The material manufacturer shall have a quality system certified in accordance with ISO 9001 and the system shall have undergone a specific assessment for the relevant materials. The material certificate shall be in accordance with EN 10204 Type 3.1.