1. Material:

Copper Rod, suitable to make conductor for the manufacture of Electric Cables, Communication cables, Overhead Conductors (HDBC) etc.

2. Description:

Continuous cast, cleaned copper rods and shall meet the requirements of latest edition of the below mentioned standards:

ASTM B-49, BS EN 1977.

3. Properties:

a) Cable grade:

Property	Unit	Value
Maximum Electrical resistivity at 20 °C	$\Omega.mm^2/Km$	17.241
Minimum Conductivity at 20 °C		100 % IACS
Maximum Tensile Strength	Kg/mm^2	25
Minimum Elongation at break (In 250 mm)	%	30
Rod diameter	mm	8.00 +/- 0.38
Drawability		Suitable for drawing down to 0.10 mm

b) HDBC grade:

Property	Unit	Value
Maximum Electrical resistivity at 20 °C	$\Omega.mm^2/Km$	17.241
Minimum Conductivity at 20 °C		100 % IACS
Minimum Tensile Strength	Kg/mm^2	24
Minimum Elongation at break (In 200 mm)	%	30
Rod diameter	mm	8.00 +/- 0.38
Drawability		Suitable for drawing down to 1.35 mm

c) Surface finish:

Rod should be bright in colour and shall be free from any black spot, groove or any surface irregularities.

4. Supply form:

a) Tightly wound cylindrical coils, well wrapped with moisture proof material (E.g., Polythene) and packed perfectly to prevent from getting out of shape of the coil and to protect against any mechanical damage. Suitable desiccant (E.g., Silica gel) should be put inside packing to absorb moisture and prevent possibility of any oxidation during transit and storage. No joint is permitted in any coil.

Coils to be palletised. Pallets must be strong enough for preservation and handling. The dimension of the pallet & other requirements shall be as per annexure 2.

Weight of the coil	:	3500 Kgs. maximum.
Outside diameter of coil	:	2000 mm maximum.
Inside diameter	:	600 mm minimum

b) Detailed packing list showing coil number and tensile strength and net weight of individual coils should be supplied for each consignment. Coil number should be prominently marked on outside of each coil.

c) Each coil must be fixed with two printed tags (each inside & outside) preferably on Aluminium sheet showing name of manufacturer, grade, coil number, weight and tensile strength.

d) Starting end should be clearly identifiable. Three meter long rod should be kept outside the strapping to enable to take sample for testing.

5. Acceptance Tests:

a. The followings tests & checks shall be conducted on material before shipment:

- Properties as per Clause no 3
- Appearance Check

b. Factory test certificate for at least 10% of the coils furnishing the tests conducted as above and chemical composition should be submitted. Test certificate should include specified and observed values.

c. For remaining part of consignment for which certificate in line with clause 5.b above is not furnished, supplier shall confirm that the material conforms to stipulated specification.

d. Properties not covered by clause no. 3.a & 3.b shall be as per specification ASTM B-49, BS EN 1977 as applicable.

6. General:

a) First Time Supply:

i. Supplier should fill the attached material data sheet in GC format (Annexure 1) & send along with DATA sheet/catalogue/any helpful literature or technical data.

ii. Supplier data sheet shall include details such as standard number, material grade (E.g., Cable grade or HDBC grade), material designation as per applicable standard, technical properties vide clause 3.a & 3.b, purity, density, supply form, shelf life & storage conditions (If, any) etc.

iii. Supplier shall confirm to this specification and deviation/clarification shall be submitted along with the offer, if any.

iv. Supplier shall send material safety data sheet.

v. Suppliers shall send one 3 meter coil sample and test certificate with all the details mentioned in clause 5. a.

All necessary process & tests shall be done on the sample rod. In case of rejection the supplier shall be informed.

7. Enclosures:

Enclosure 1-> Annexure 1 (Editable PDF data sheet format is attached)

Enclosure 2-> Annexure 2

شركة مجموعة الخليج للكابلات والصناعات الكهربائية ش.م.ك.ع. - الكويت
Gulf Cables & Electrical Industries Group Co. K.S.C.P. - KUWAIT

MATERIAL DATA SHEET FOR COPPER ROD - CABLE GRADE/HDBC GRADE

Ref.: TD-MS 01 Rev. 02

DESCRIPTION	UNIT	SPECIFIED	SUPPLIER DATA
General			
Supplier Name			
Country			
Address			
Characteristics			
Material Grade			□ Cable Grade □ HDBC
Material Designation		As per ASTM-B 49 for cable grade	
		As per BS EN 1977 for HDBC grade	
Rod Diameter	mm	8.00 +/- 0.38	
Tensile Strength	Kg /mm²	25 (Max.) for cable grade	
		24 (Min.) for HDBC grade	
Elongation at break	%	30 (Min.) for cable grade (Gauge length 250 mm)	
		30 (Min.) for HDBC grade (Gauge length 200 mm)	
Electrical resistivity at 20 °C	Ω.mm²/Km	17.241 (Max.)	
Conductivity		100 % IACS (Min.)	
Copper Purity	%	99.9 (Min.)	
Supply Form			
Inside diameter of coil	mm	600 (Min.)	
Outside diameter of coil	mm	2000 (Max.)	
Net Weight of the coil	Kg	3500 (Max.)	
Gross weight of the coil	Kg		
Marking details		Printed tag fixed on coil (preferably on Aluminium sheet) showing name of manufacturer, grade, coil number, weight, tensile strength.	
Pallet requirements		Shall be as per annexure 2 of TD-MS 01 Rev. 02	
Comply to TD-MS 01 Rev. 02*		Yes	
Remark			

Statement of conformity: We hereby confirm that the material meets all the requirements stated in TD-MS 01 Rev. 02

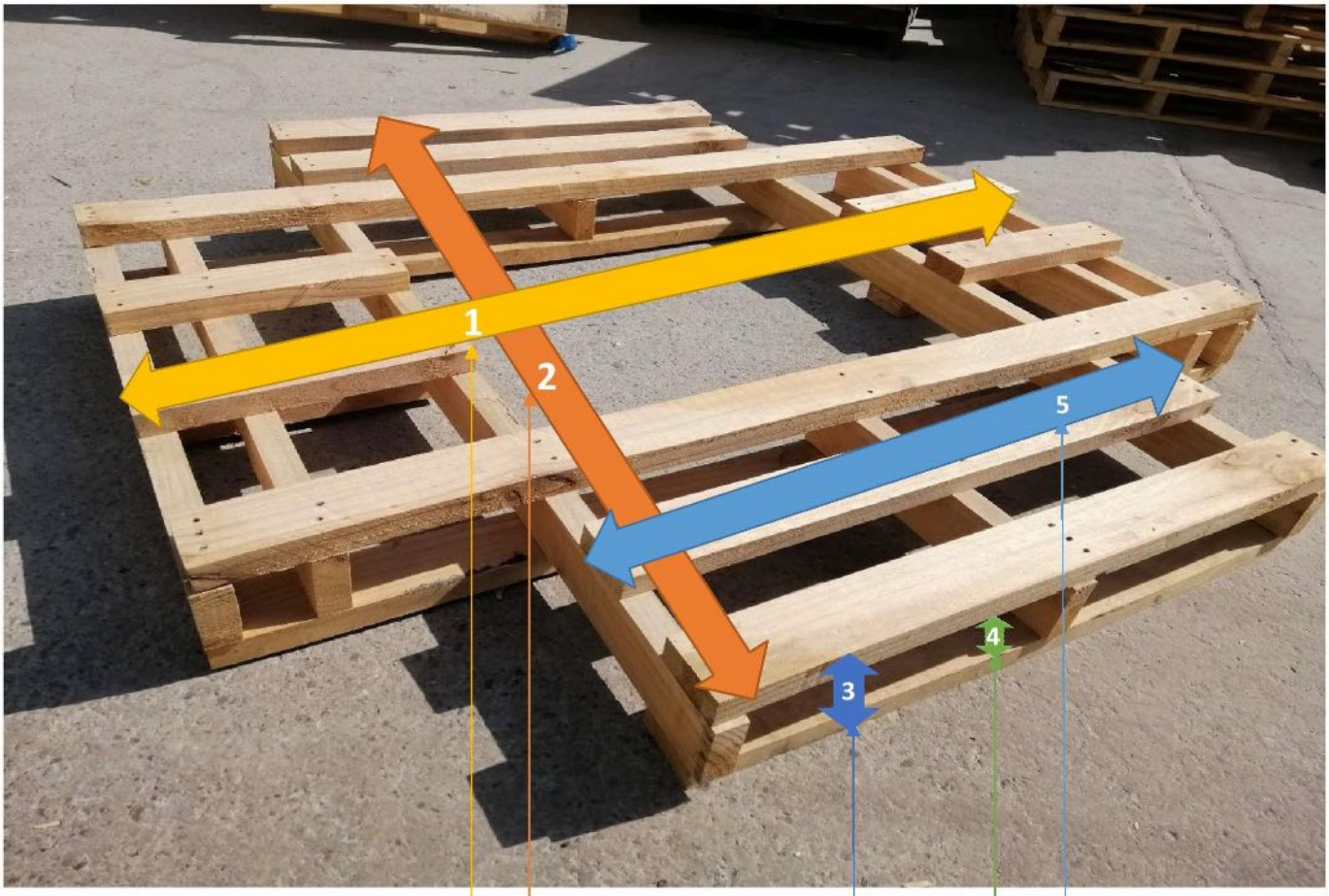
** Clause wise compliance/deviation shall be submitted in case of non-compliance*

Supplier Sign & Stamp:

Date:

Prepared by	Checked by	Approved by	Issued by	Issue date
				08/10/2023

PALLET REQUIREMENTS



1) Pallet outer length - 175 cm
2) Pallet outer width - 175 cm
3) Pallet height - 16 cm
4) Pallet inner gap - 10 cm
5) Pallet inside width - 98 cm

Prepared by	Checked by	Approved by	Issued by	Issue date
				08/10/2023