


SPECIFICATION**For****FHC**

Hard-drawn Copper Stranded Conductor

BY 
(Wachara Sangsomritphon)
MANAGER, Cable Design Section

Rev.	Date	Description
0	25/7/2024	Issued specification

APP. _____
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CUSTOMER

Customer Document	Rev.

Remark:

This document is based on the Customer Document for the structure and properties of electric wire and cable only. If there are different points, will be shown in deviation table.

Invitation to Bid No. :
Specification No. : RCBL-029/2548

C Material, equipment, and specifications for COPPER STRANDED CONDUCTOR

C1 General material and packing instructions

Additional to the general instructions, the following shall be observed :

1a Scope

These specifications cover bare copper stranded conductor.

1b Standard

Copper stranded conductor shall be manufactured and tested in accordance with the latest TIS 64.

1c Principal requirement

Copper stranded conductor shall be hard drawn, used as overhead line conductor.

Test : Besides manufacturer's test certificate, PEA shall test the properties of conductors according to the above-mentioned standard except the wire diameter. The wire diameter, after stranding, shall be measured at some points for inspection and the tolerance is allowed according to the above-mentioned standard, but the average value of those figures shall not be less than the diameter of wire specified in the above-mentioned standard.

Place of testing : All tests shall be made at PEA's testing laboratory.

1d Packing

The conductors shall be packed on non-returnable wooden reels with hub reinforcements. Reels shall be lagged with suitable wooden battens to protect the conductors against damage. After lagging, the galvanized steel wire or steel strap shall be fitted to the battens over each flange of the reel. Overall outside diameter of reel shall not exceed 1.5 meters.

The wooden parts of reels shall be treated with water-borne wood preservatives, Chromated Copper Arsenate (CCA), according to Group 3 of the latest TIS 515, see Table 1 to a dry net salt retention of 12.0 kg/m³.

Table 1.
Active Ingredients of CCA

Description		TIS 515 - 2527		
		Group 3		
		Type 1	Type 2	Type 3
Copper, as CuO	%	16.0 - 20.9	18.0 - 22.0	17.0 - 21.0
Chromium, as CrO ₃	%	59.4 - 69.3	33.0 - 38.0	44.5 - 50.5
Arsenic, as, As ₂ O ₃	%	14.7 - 19.7	42.0 - 48.0	30.0 - 38.0

The conductor in each reel shall be supplied in manufacturer's usual production lengths with variation of $\pm 5\%$.

An amount not exceeding 10% of the total length may be delivered in random lengths, but any such length shall not be less than 50% of the production length on one reel.

C2 Material and packing data to be given by bidder

2a Copper stranded conductor details

Nominal cross-sectional area of conductor in mm^2 .
Actual cross-sectional area of conductor in mm^2 .
Number of wires:
Diameter of wire in mm.
Overall diameter of conductor in mm.
Construction of conductor.
Minimum calculated strength in N or kgf.
Maximum resistance at 20°C in ohm/km .
Weight resistivity of copper at 20°C in ohm-g/m^2 .
Weight of conductor in kg/km .

2b Packing details

Packing method (shown by drawing(s), describe packing materials, details of wood treatment).
Principal dimensions of reel in cm.
Gross weight of one reel in kg.
Net weight of one reel in kg.
Length of uncut conductor per reel in m (with variation of $\pm 5\%$).



DESIGNATION : FHC

SPEC NO. TYSS 8517 S

PAGE No. 1 OF 2

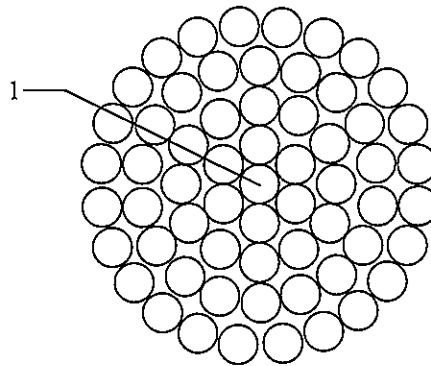
REV No. 0

Properties of conductor

Cross-section area	Conductor consist		Conductor diameter approx.	Minimum calculated strength	Conductor resistance at 20°C maximum	Weight resistivity of copper at 20°C	Weight of conductor	Net weight approx.	Gross weight approx.	Standard packing length
	Nominal (mm ²)	Actual (mm ²)								
	95	94.77	(No./mm)	(kgf)	(Ohm/km)	(Ohm-g/m ²)	(kg/km)	(kg)	(kg)	(m)
			19/2.52	3961	0.19183	0.15801	855	1710	1949	2000

DESIGNATION : FHC**SPEC NO. TYSS 8517 S****PAGE No. 2 OF 2****REV No. 0****Cable structure**

Cross-sectional (Not scale)



No.	Structure	Material
1	Copper wire	Hard-drawn copper

Application: For overhead transmission and distribution line, ground conductor.