

*Founded on Experience
Based on Quality
Built on Service*

Power Supplies UK Ltd.

Baydon Hill Farm,
Oxford Street
Aldbourne,
Wiltshire, SN8 2DJ,
United Kingdom

Phone: +44 (0) 1672 541 311
Fax: +44 (0) 1672 541 151
Email: sales@821119.com
Web Site: www.821119.com
Company Reg No: 3358217
VAT No: 685 5304 15

SPECIFICATION FOR TELECRIMP® CONNECTORS

TYPE TC 20

Part № 558/8/04076/000

1. JOINTING RANGE

- 1.1. The connectors are capable of jointing telephone cables in the following sizes and combinations

Maximum permissible diameter over insulation – solid polyethylene or paper (pulp or wound) 1.27 mm, cellular polyethylene 1.45 mm.

Conductor diameters that may be jointed together;

- a. 0.32 mm copper – 0.63 mm copper,
0.50 mm aluminium and any combination of wire sizes within the range.
- b. 0.40 mm copper – 0.80 mm copper,
0.50 mm aluminium and any combination of wire sizes within the range.

2. GENERAL DESCRIPTION

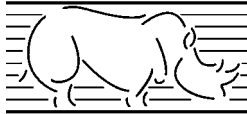
- 2.1. The connector consists of two components, (see drawing № 558/8/04076/00) an outer insulation of orange coloured PVC and an inner non-corrosive metal component designed to penetrate the conductor insulation and establish a durable contact between the jointed conductors.

3. MECHANICAL PERFORMANCE

- 3.1. A connected wire may be bent backwards and forwards through 180° at the end of the connector without breakage.
- 3.2. The tensile strength of a completed joint is not significantly less than that of the wire being jointed.

4. ELECTRICAL PERFORMANCE

- 4.1. Insulation Resistance: A complete joint has an insulation resistance of more than 100,000 MΩ at an applied voltage of 500 VDC.
- 4.2. Dielectric Strength: No breakdown of dielectric or arcing will occur with an applied voltage of 1.5 Kv DC.
- 4.3. Joint Resistance: See tables 1 & 2.



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5. ACCEPTANCE TESTS

5.1. Preparation of joints for acceptance tests. Polyethylene insulated wires of the same gauge, about 200 mm in length and free from kinks and other malformations shall be jointed in an approved TELECRIMP[®] Jointing Machine.

5.2. Number of joint required for each size of conductor:

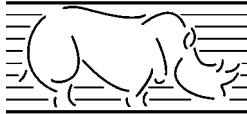
Initial Resistance	(section 5.3)	-	20
Thermal Cycling	(section 5.4)	-	20
Insulation Resistance	(section 5.6)	-	5
Dielectric Strength	(section 5.7)	-	5
Tensile Strength	(section 5.8)	-	20

5.3. Resistance Measurements: Joint resistance shall be measured by placing a completed joint in test jig TL.109260. The distance between the voltage pickup point being 30 ± 0.25 mm. The applied voltage shall not exceed 2.0 VCD and the current shall not exceed 1.0 Amp. The resistance of each joint shall not exceed the appropriate limits detailed in table 1.

Table 1

Copper Conductor Diameter (mm)	Resistance Not to Exceed (m Ω)
0.32	6.50
0.40	5.50
0.50	3.50
0.63	2.50
0.80	1.50
Aluminium Conductor Diameter (mm)	
0.50	5.00

5.4. Thermal Cycling Test: The resistance of a completed joint after being subjected to the thermal cycling test described below and the measured as described in 5.3 above, shall not exceed the appropriate limits shown in table 2. The thermal cycling test requires the completed joint to be subjected to 84 cycles in a thermal cycling chamber. Each cycle shall consist of 30 ± 2 minutes at $75 \pm 2^{\circ}\text{C}$, followed by 30 ± 2 minutes at $-25 \pm 2^{\circ}\text{C}$, with a minimum transfer time of 30 minutes. After the conclusion of the 84th cycle, the joint shall be allowed to recover to $20 \pm 5^{\circ}\text{C}$ for not less than one hour before testing.



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5.5.

Table 2

Copper Conductor Diameter (mm)	Resistance Not to Exceed (m Ω)
0.32	7.50
0.40	6.50
0.50	4.50
0.63	3.50
0.80	2.50
Aluminium Conductor Diameter (mm)	
0.50	6.00

- 5.6. Insulation Resistance: A completed joint placed symmetrically in test jig TL.514800 shall have an insulation resistance of more than 100,00 MΩ after electrification for one minute, at an applied voltage of 500 VDC. The voltage shall be applied between the jig and one of the conductors from the join under test.
- 5.7. Dielectric Strength: A completed joint placed symmetrically in test jig TL.514800 shall not break down or arc when a voltage of 1.5 Kv DC is applied between one wire of the joint under test and the test jig.
- 5.8. Tensile Test: The joints shall be placed in a suitable tensile testing machine and subjected to an axial pull, giving a movement at a steady rate of not more than 25 mm per minute, until breakage occurs. The breaking load shall not be less than the figures in table 3

Table 3

Copper Conductor Diameter (mm)	Minimum Breaking Load (Newton)
0.32	15.0
0.40	25.0
0.50	40.0
0.63	65.0
0.80	95.0
Aluminium Conductor Diameter (mm)	
0.50	18.0