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中国认可  
国际互认  
检测  
TESTING  
CNAS L4914

## Test Report for Fire Rated Cables

Sample Code: BFR 4G1.5  
Test Methods: As per AS/NZS 3013:2005 Appendix A  
Test Date: 10<sup>th</sup> September, 2022  
Report No.: S8-229

Hebei Huatong Wires and Cables Group Test Center



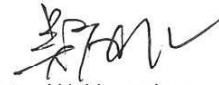
No. CNAS L4914



Tested By: ZhangChao



Checked by: LiuDongsheng



Approved by: WuYongshun

**Sample Description :**

Tinned copper , 3C+E1.5 TCu CLASS2/MICA/X-HF-110/HFS-110-TP

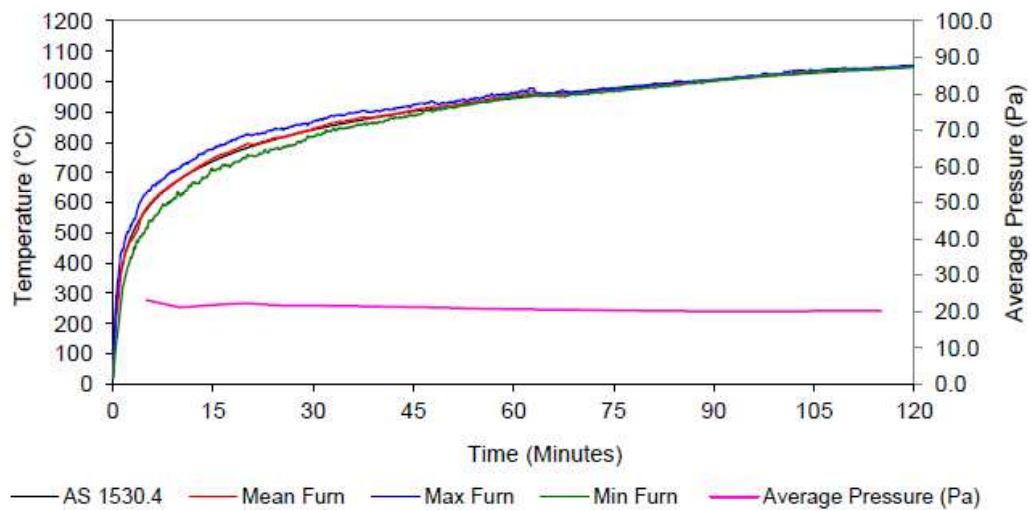
**Test Configuration:**

The sample is positioned as per figure 1 below:

The tested cable had two bend of 90° at the bending radius shown in table 1 with metallic cable tie fixing the cable to the tray.



**Furnace Temperatures and Pressure:**



**Fire Resistance Test:**

Control of the furnace temperature was conducted in accordance with AS/NZS 3013:2005 and was maintained within the prescribed limits of variance from the time and temperature curve that is specified in AS 1530.4:2014 for the duration of the test period. The furnace pressure was measured at a position approximately 100mm below the soffit of the specimen of the specimen mounting slab and was maintained at approximately 20Pa above the laboratory atmospheric pressure for the duration of the fire resistance test.

The electrical power cables were connected to a 240/415V 3 phase electrical circuit integrity monitoring system. This monitoring system provided each electrical circuit with 240 volts through a circuit breaker with indication lights and a resistive load 60W to induce 0.25A of current per circuit

The fire resistance test was terminated at 120 minutes

**Observations:**

From 0 minutes to 120 minutes, no short circuit occurred, and all indication light were on during the 120 minutes test duration.

**Summary of Fire Resistance Test:**

Cable Group 3, trefoil configuration, 120 minutes circuit integrity

**Water Spray Test:**

The Water Spray Test was conducted in accordance with AS/NZS 3013:2005 Appendix B using a ½" BSP male brass nozzle with a water spray cone of 90° that was positioned centrally, nominally 500mm below the soffit of the specimen mounting slab. The Water Spray Test was conducted within 10 minutes of the completion of the Fire Resistance Test for a duration of 3 minutes. The observations and test results of the water spray test are shown in below:

**Observations:**

122 min 10 s : Start water spray test and all indication lamps lit

125 min 10 s: All indication lamps remain lit and conducting the supplied current. Water spray test end.

**Summary of Cable Classification:**

Cable Group 3, WS52W classification

**Mechanical Impact Test Results****Mechanical Cutting Test Results**

2	IMPACT TEST	4.54kg 337mm	
	-25°C 4h	a conductor is not carrying the test current;	Did not happen
	23°C 4h	a conductor has made contact with another conductor;	Did not happen
	110°C 4h	a conductor has made contact with a screen, armor or earthed metal; or a conductor has made contact with the impact test load assembly.	Did not happen
3	CUTTING TEST	The load value at the time of any short circuit in the loop shall	
	-25°C 4h	≥ 1.0 kN	6.2
	23°C 4h	≥ 1.0 kN	5.1
	110°C 4h	≥ 1.0 kN	3.5