

Test Report

Report No.: EED31I00484802R1

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Client : Cableforce Electronics Company Limited
Address : Building No.3, Xingye Street, 1st. Industrial Zone, Miaobianwang Village, Shipai Town, Dongguan City, Guangdong Province, China (523330)

Description of the submitted sample(s):

Sample Name : M12 Circular Connectors and M12 Cable
Model : MC04CXXXX series, MC03CXXXX series, MC05CXXXX series, MC08CXXXX series, MC12CXXXX series
Trade : Cableforce
Test Item : IP67
Surrounding : 24°C, 61% R.H.
State of Sample(s) : Normal
Sample Quantity : 1 pc
Manufacture : Cableforce Electronics Company Limited

Sample Received Date : Oct. 17, 2016
Sample tested Date : Oct. 19, 2016
Test Requested : 1) IEC 60529:2013;
2) According to client's request.

Remark : 1) The tested sample(s) and the sample information are provided by the client.
2) All models have the same construction of resistance to dust, solid objects and moisture, the model MC04C3LSG3ASB is selected to perform the tests.

Equipment list:

Test Equipment	Equipment Model	Equipment No.	Expiry Date of Calibration
Dust Tester	KXT1410	TTE20151776	Mar. 08, 2017
Temperature and humidity meter	175H1	TTE20141686	Mar. 13, 2017
Stopwatch	TF807	BTTEELSZ10077	Mar. 24, 2017
Steel tape	5m	ATTEELSZ10027	Oct. 08, 2017
Test wire	1mm	HT120390G001	Mar. 11, 2017

Test Results: Please refer to the next page.

This testing report displaces the original report of No.EED31I00484802, and the original one No.EED31I00484802 was invalid since the date of this testing report released.



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Nov. 04, 2016

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1 IP6X test

1.1 Test procedure

- 1) The test wire of 1.0mm Φ shall not penetrate and adequate clearance shall be kept.
- 2) The test is made using a dust chamber, the powder circulation pump may be replaced by other means suitable to maintain the talcum powder in suspension in a closed test chamber. The talcum powder used shall be able to pass through a square-meshed sieve the nominal wire diameter of which is 50 μm and the nominal width of a gap between wires 75 μm . The amount of talcum powder to be used is 2 Kg per cubic meter of the test chamber volume. It shall not have used for more than 20 tests.
- 3) If an extraction rate of 40 to 60 volumes per hour is obtained the duration of the test is 2 h.
- 4) If, with a maximum depression of 2 kPa(20 mbar), the extraction rate is less than 40 volumes per hour, the test is continued until 80 volumes have been drawn through, or a period of 8 h has elapsed.

1.2 Evaluation of test results

Acceptance conditions for the IP6X test:

- 1) The protection is satisfactory if adequate clearance is kept between the access probe and hazardous parts.
- 2) The protection is satisfactory if no deposit of dust is observable inside the enclosure at the end of the test.

1.3 Test results

Sample No.	Test time	Observations	Verdict
S161014003-2	2h	The test wire did not penetrate the specimens, and adequate clearance was kept. After test, no deposit of talcum powder entered in enclosure.	Pass

2 IPX7 test

2.1 Test procedure

The test is made by completely immersing the enclosure in water in its service position as specified by the manufacturer so that the following conditions are satisfied:

- 1) The lowest point of enclosures with a height less than 850 mm is located 1000 mm below the surface of the water.
- 2) The duration of the test is 30 min.
- 3) The water temperature does not differ from that of the equipment by more than 5 K. However, a modified requirement may be specified in the relevant product standard if the tests are to be made when the equipment is energized and/or its parts in motion.

2.2 Evaluation of test results

In general, if any water has entered, it shall not:

- 1) Be sufficient to interfere with the correct operation of the equipment or impair safety.
- 2) Deposit on insulation parts where it could lead to tracking along the creepage distances.
- 3) Reach live parts or windings not designed to operate when wet.
- 4) Accumulate near the cable end or enter the cable if any.

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2.3 Test results

Sample No.	Test time	Observations	Verdict
S161014003-2	30min	After the test, no trace of water entered in enclosure.	Pass

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Photos of the sample



Fig.1- Overall view of model MC04C3LSG3ASB



Fig.2- Overall view of model MC04C3LSG3ASB

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Fig.3- Sample during IP6X test(using test wire of 1.0mm Φ)



Fig.4- Sample during IP6X test

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Fig.5- Sample during IPX7 test



Fig.6- Sample after IP6X test

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Fig.7- Sample after IPX7 test



Fig.8- Overall view of model MC03CXXXX series

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Fig.9- Overall view of model MC05CXXXX series



Fig.10- Overall view of model MC08CXXXX series

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Fig.11- Overall view of model MC12CXXXX series

*** End of Report ***

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