



Report No. EMTL / 698-2

Date: 03rd September, 2020**TEST REPORT**

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Testing Laboratory	
Name:	Electrical Measurement & Test Laboratory
Address:	PCSIR Laboratories Complex, Ferozepur Road, Lahore – 54600, Pakistan
Testing Location:	Same as above
Job Code #	698-2
ILO Log # & Date:	797 / 31-08-2020
Customer	
Name:	Indus Cables
Address:	Plot No. F-36 and F-37, Sector 50-C Korangi Karachi-74900
Request Ref. & Date:	Email Dated: 25-08-2020
Test Specification	
Standard:	IEC 60227-5
Test Procedure:	N.A.
Procedure Deviation:	N.A.
Non-standard Test Method:	N.A.
Test Item Description	
4-Core 0.75 mm ² Flexible Fire Retardant Cable of rated Voltage 300/500 Volts	
Sample Length: Approx. 35 meter	
Copy of Marking Plate / Label	
0.75 mm ² x 4/CORE FLEXIBLE FIRE RETARDANT CABLE 300/500 VOLTS INDUS CABLE (PVT) LTD KARACHI	



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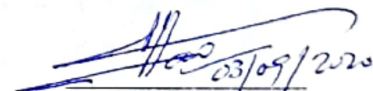
Test Case Verdicts	
Test case does not apply to the test object:	N(A.)
Test item does meet the requirement:	P(ass)
Test item does not meet the requirement:	F(ail)
Testing	
Date of Receipt of Test Item:	24-08-2020
Date (s) of Performance of Test:	26-08-2020 to 31-08-2020
General Remarks	
The results of tests carried out on the provided test sample of 4-Core 0.75 mm ² Flexible Fire Retardant Cable conform the standard requirements. The test data is hereby attached for the client information with following observation.	
1* Colour of cores does not match with colour scheme as prescribed in the standard.	

Report:

Prepared by: Malik Allah Yar
Senior Experimental Officer



(Signature)

Reviewed by: Muhammad Azhar
Head, Electrical Measurement & Test Laboratory


(Signature)



Approved by: Dr. Quratulain Syed
Director General


(Signature)
3 9.2020

Note: The Test Results and the Terms & Conditions Governing Testing and Calibration Services provided by PCSIR Laboratories Complex, Lahore – Pakistan are attached herewith.



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IEC 60 227-5			
Clause	Prescribed	Observed	Verdict

CONSTRUCTION			
Number of cores	4	4	-
Insulation	PVC compound of type PVC/D	PVC/D	-
Sheath	PVC compound of type PVC/ST5	PVC/ST5	-
Voltage Rating	300/500 V	300/500 V	P

MARKING						
Indication of origin	Indelible, clearly discernible, name continuous and easily legible	Compliance Observed				P
Core identification	Clearly identifiable and durable	Compliance Observed				P
Colour scheme	Either green-and-yellow, brown, black, grey or blue, brown, black, grey	Brown	Blue	Black	Y/G	1*

ELECTRICAL TESTS						
Voltage test						
Voltage Test on Complete Cable 2000 V, 5 min.	No breakdown	No breakdown observed				P
Voltage Test on Cores 2000 V, 5 min.	No breakdown	No breakdown observed				P
Insulation resistance at 70°C	Min. 0.011 MΩ/km	0.1675 MΩ/km	0.3475 MΩ/km	0.1975 MΩ/km	0.2030 MΩ/km	P

CONDUCTORS						
Material	Copper	Plane Annealed Copper				-
Tinned or untinned	Tinned or untinned	Untinned				-
Number of wires	-	24				-
Diameter of wires mm	Max. 0.21 mm	0.199 mm	0.200 mm	0.198 mm	0.199 mm	P
Cross sectional area of conductor (Approximate)	0.75 mm ²	0.75 mm ²	0.75 mm ²	0.75 mm ²	0.75 mm ²	P
Diameter of conductors mm	Max. 1.3 mm	1.25 mm	1.24 mm	1.26 mm	1.26 mm	P
DC Resistance Ω/km at 20 °C	Max. 26.0 MΩ/km	23.32 MΩ/km	23.39 MΩ/km	23.27 MΩ/km	23.43 MΩ/km	P



Pakistan Council of Scientific & Industrial Research

LABORATORIES COMPLEX, FEROZEPUR ROAD, LAHORE - 54600

Annexure-12 Doc # EMTL/A-12/01 Issue # 02 Issue Date 1st July, 2011 Rev # 00



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IEC 60 227-5			
Clause	Prescribed	Observed	Verdict

INSULATION APPLICATION

THICKNESS

Specified value	mm	Min. 0.6 mm	Brown	0.67	P
			Blue	0.71	P
			Black	0.70	P
			Yellow / Green	0.65	P
Minimum thickness of insulation		Min. 0.44 mm	Brown	0.598	P
			Blue	0.648	P
			Black	0.635	P
			Yellow / Green	0.603	P

SHEATH APPLICATION

MEAN OVERALL DIMENSIONS

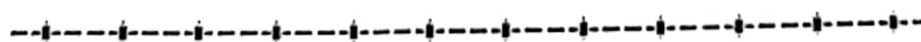
Lower limit	mm	Min. 6.6 mm	7.49 mm	P
Upper limit	mm	Max. 8.3 mm		
Ovality/ Difference between any two values on one place	%	Max. 15 %	1.10 %	P

SHEATH THICKNESS

Specified value	mm	Min. 0.8 mm	1.05 mm	P
Minimum thickness of insulation		Min. 0.58 mm	0.789 mm	P

TEST OF FLAME RETARDANCE (AS PER IEC 60332-1-2:2004)

Length of cable (mm)	600 mm	600 mm	-
Duration of flame application (sec)	60 sec.	60 sec	-
Flame applied for 60 ± 2 sec.	<ul style="list-style-type: none"> - Test pass if the distance between the lower edge of the top support and the onset of charring is greater than 50 mm. - Also consider failure if charring extends downward to a point greater than 540 mm from lower edge of the top support. - Self extinguished within 30 sec. after flame is removed. 		Compliance Observed P





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TERMS & CONDITIONS GOVERNING PRODUCT TESTING & CALIBRATION SERVICES PROVIDED BY PCSIR LABORATORIES COMPLEX, LAHORE – PAKISTAN

This report is issued under the following conditions:

- Results of the testing / calibration in the form of report will be issued immediately after the job has been completed or terminated.
- Unless otherwise requested, a report shall contain only technical results. Analysis and interpretation of the results and professional opinion / recommendations expressed thereupon, if required, shall be clearly requested and additional fee will be charged from the customer.
- This report is applicable only to the sample of the specific product / equipment given for its testing / calibration. The results are not used to indicate or imply that they are applicable to other similar items. Neither should such results be used to indicate or imply that PCSIR Laboratories Complex, Lahore approves, certifies, recommends or endorses the manufacturer, supplier or user of such product / equipment or that PCSIR Laboratories Complex, Lahore in any way "guarantees" the later performance of the product/equipment.
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- The report/results shall not be reproduced wholly or in parts and the customer shall not make any reference of PCSIR / its logo / its report(s) / result(s), for advertisement or sales promotion purposes unless negotiated otherwise.
- Upon job completion, the tested sample will be retained at the respective Labs for four weeks time unless negotiated otherwise. Upon expiry of this period, the customer shall collect all products / equipment within fifteen days. If the customer fails to collect the product / equipment within the stipulated time frame, PCSIR Laboratories Complex, Lahore shall proceed to dispose the product/ equipment in any manner it deems fit and no claim shall be entertained.
- PCSIR Laboratories Complex, Lahore shall not under any circumstances be responsible for any loss or damage to product / equipment during transit or while in the custody of PCSIR Laboratories Complex, Lahore. All reasonable care will be taken when the product / equipment is in the custody of PCSIR Laboratories Complex, Lahore. However, insurance against accidental loss or damage, either in transit or at PCSIR Laboratories Complex, Lahore shall be arranged and paid by the customer.
- Subject to the provision stated herein, PCSIR Laboratories Complex, Lahore shall not under any circumstances be liable for any direct or indirect loss or damage suffered by the customer, arising from the services provided by PCSIR Laboratories Complex, Lahore. PCSIR Laboratories Complex, Lahore warrants that it will exercise extra care and diligence in performing the job as agreed with the customer. In the event that PCSIR Laboratories Complex, Lahore is found liable to the customer(s) by operation of law, the maximum extent of PCSIR Laboratories Complex, Lahore's liability shall not exceed the amount of fees paid by the customer to PCSIR Laboratories Complex, Lahore in respect of the testing / calibration services.
- In the event any of the employees of PCSIR Laboratories Complex, Lahore being requested by the Customer or summoned by Court upon application by the customer or any other parties for attendance in court as an expert witness on the subject of the testing / calibration services provided, the customer agrees and shall pay the cost to PCSIR Laboratories Complex, Lahore for such attendance in court.
- The customer shall indemnify PCSIR Laboratories Complex, Lahore fully against all damages suffered and cost and expenses incurred by PCSIR Laboratories, Complex, Lahore and all claims by any third parties as a result of any breach of the terms and conditions herein by the custom.

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