Test Report

BSI
Product Services

Report No	243/4410780 This Report consists of 6 pages
Client	National Cables Industry PO Box 27472 Sharjah United Arab Emirates
Authority & date	Clients Order dated 18 July 2002
Items tested	1 sample of Electric Cable
Specification	BS 6500:2000 Including AMD 13631 Excluding clause 7.8.5 Absence of faults in the insulation
Results	The sample submitted complied with the requirements of the Specification For the tests which were requested
Prepared by	M A Bonnar Technician
Authorized by	C Yogaratnam Technical Engineer
Issue Date	12 December 2002
Conditions of Issue	This Test Report is issued subject to the conditions stated in current issue of *PS082* 'General conditions relating to acceptance of testing'. The results contained herein apply only to the particular sample/s tested and to the specific tests carried out, as detailed in this Test Report. The issuing of this Test Report does not indicate any measure of Approval, Certification, Supervision, Control or Surveillance by BSI of any product. No extract, abridgement or abstraction from a Test Report may be published or used to advertise a product without the written consent of the General Manager, BSI Product Services, who reserves the absolute right to agree or reject all or any of the details of any items or publicity for which consent may be sought.

UKAS TESTING
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1) Introduction

This report relates to tests conducted on a sample of electric cable submitted by National Cables Industry, Sharjah, United Arab Emirates.

This report applies only to the particular sample tested and to the specific tests carried out and detailed within the report. It does not indicate any measure of Approval, Certification, Supervision, Control or Surveillance by BSI of this or any related products.

2) Samples

The client submitted one sample of Electric cable as detailed below;

4 x 1.5 mm² White sheathed cable.

3) Testing

The sample submitted was subjected to the tests specified in Table 27 of BS 6500:2000. Excluding clause 7.8.5 Absence of faults in the insulation, this test is in the final stage of manufacture.
The client resubmitted another sample of 4x1.5mm² white sheath cable, to retest the original failure.

4) Results

The results of the tests carried out are detailed on the following pages of this Report.

Note 1:- The test results were taken from the original test report 243/4401200, except the failures.

Note 2:- The potential variability in, both the items tested and the method of measurement used, means that for measurements close to a specified limit, the level of confidence in a compliance statement may or may not be reduced.

Further advice on the specific measurements in this report that may be affected can be obtained from the report authoriser shown on the front cover.

5) Conclusion

The sample submitted complied with the requirements of the Specification.
For those tests, which were requested.

TESTING OF CABLE MANUFACTURED TO BS 6500:2000 TABLE 27

Circular Cable 4 core **Conductor size:** 1.5 sq.mm

ASSESSMENT

Indication of origin

Marking printed on sheath:-
"NATIONAL CABLES INDUSTRY: U.A.E.: 2002: 4x1.5MM² CU/PVC/PVC: 300/500 VOLTS AS PER BS-6500" PASS

Legible:- PASS Durable:- PASS Repeat interval:-325 mm PASS PASS

Construction

Outer Covering:	WHITE SHEATH
Type of conductor:	PLAIN ANNEALED Cu
Filler:	SHEATHING COMPOUND

Overall assessment of construction PASS

Sheath thickness (mm)

Mean	1.18	PASS
Minimum	0.79	PASS

Date samples received:- 19/10/02	Testing commenced:- 19/10/02	Tested by:- M.A.Bonnar
Date job raised:- 19/10/02	Testing completed:- 04/11/02	Checked by:- C. Yogaratnam

N/A = Not Applicable N/R = Not Requested N/T = Not Tested

TESTING OF CABLE MANUFACTURED TO BS 6500:2000 TABLE 27

Circular Cable 4 core **Conductor size:** 1.5 sq.mm

					ASSESSMENT
Tests on individual cores					
Core I.D. and sequence	G/Y	BLACK	BLUE	BROWN	PASS
Green/Yellow Proportion	35/65				PASS
Core colour indelibility	P	P	P	P	PASS
Conductors					
Wire diameter	0.25	0.25	0.25	0.25	PASS
Class of conductor	5	5	5	5	PASS
Resistance (ohms/km)	12.9	13.1	13.1	12.9	PASS
Insulation Thickness					
Mean (mm)	0.76	0.75	0.76	0.77	PASS
Min (mm)	0.61	0.68	0.66	0.65	PASS

Overall assessment:- PASS

Heat shock test					
Sheath					PASS
Cores	PASS	PASS	PASS	PASS	PASS

Overall assessment:- PASS

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TESTING OF CABLE MANUFACTURED TO BS 6500:2000 TABLE 27

Circular Cable 4 core **Conductor size:** 1.5 sq.mm

		ASSESSMENT
Tests on complete cable		
Mean Overall Diameter Circular Cable:- (mm)	9.1	PASS
Ovality (Max. difference between diameters (mm)	0	PASS
Fire performance test		PASS

Tensile tests on Sheath

Compound	TM2
Tensile strength unaged (N/mm²)	17.8
Elongation at Break-unaged (%)	358
Tensile strength, aged 80 C (N/mm²)	14.5
% Var Tensile Strength, 80 C	-19
Elongation @ break after ageing 80 C (%)	292
% Var. Elongation @ break after ageing 80 C	-18
Compatibility Tensile Strength after ageing	16.8
Compatibility Elongation @ break after ageing	314
Compatibility % Var Tensile Strength	-6
Compatibility % Var Elongation at break	-12
Assessment of tensile tests on sheath	PASS

Tensile tests on Cores

Compound	TI2			
Core I.D. and sequence	G/Y	BLACK	BLUE	BROWN
Tensile strength unaged (N/mm²)	14.1	14.6	14.0	14.2
Elongation at Break-unaged (%)	297	312	302	314
Tensile strength, aged 80 C (N/mm²)	14.3	14.1	13.7	14.0
% Var Tensile strength, aged 80 C	1	-3	-3	-2
Elongation @ break after ageing 80 C (%)	311	319	291	309
% Var.Elongation @ break after ageing 80 C	5	2	-4	-2
Compatibility Tensile Strength after ageing	15.0	15.1	14.5	14.9
Compatibility Elongation @ break after ageing	281	286	282	293
Compatibility % Var Tensile Strength	6	3	3	5
Compatibility % Var Elongation at break	-5	-8	-7	-7

Assessment of tensile tests on cores PASS

Overall assessment:- PASS

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TESTING OF CABLE MANUFACTURED TO BS 6500:2000 TABLE 27

Circular Cable 4 core **Conductor size:** 1.5 sq.mm

					ASSESSMENT
Tests on Sheath or complete cable					
Compound	TM2				
Cold Bend @ -15 C					PASS
Cold Impact test @ -15 C					PASS
Loss of mass mg/cm²			0.04		PASS
Hot pressure (%)			24		PASS
Tests on Cable					
Voltage test @ 2000 Volts					PASS
Flexing test 30000 cycles					PASS
Voltage test @ 2000 V					PASS
Tests on individual cores					
Compound	TI2				
Core I.D. and sequence	G/Y	BLACK	BLUE	BROWN	
Insulation resistance constant @ 70 C Mohms.km					
	2.707	3.753	4.048	3.884	PASS
Cold Bend @ -15 C	P	P	P	P	PASS
Loss of mass mg/cm²	0.03	0.05	0.06	0.11	PASS
Hot pressure	29	34	42	40	PASS
Voltage test on cores @ 2000 Volts					
	P	P	P	P	PASS
Insulation resistance @ 70 C (Mohms.km)					
	0.783	1.08	1.17	1.14	PASS
Resistance of insulation to D.C					
	P	P	P	P	PASS

Overall assessment:- **PASS**

The sample complied with the requirements of the standard

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