



सत्यमेव जयते

भारत सरकार
Government Of India

उपभोक्ता मामले, खाद्य एवं सार्वजनिक वितरण मंत्रालय, उपभोक्ता मामले विभाग
Ministry of Consumer Affairs, Food & Public Distribution, Department of Consumer Affairs

राष्ट्रीय परीक्षण शाला (पश्चिमी क्षेत्र)
NATIONAL TEST HOUSE (Western Region)
प्लॉट नं. एफ 10, एम.आय.डी.सी. मरोल, अंधेरी (पूर्व), मुंबई - 400 093
Plot No. F-10, MIDC, Marol, Andheri (E), Mumbai - 400 093.

From No. NTH / (WR)/MUM-5



परीक्षण प्रमाण पत्र
TEST CERTIFICATE

036285

00768

INTERIM/FINAL REPORT

Test certificate no	Date of Issue	Code No	No. of pages
NTH(WR)/EL(C)/2017/0031A	09/05 /2017	1487224295602	1

Issued to : M/s. ELECTRO CRIMP CONTACTS(INDIA)PVT.LTD.

Address : 44/17/1 MIDC, Satpur,NASHIK-422 007

Customer's Ref. No. : NIL dtd.02.02.2017

Register No. & Date : 0031/NTH(WR)/EL(C)/24/02/2017

Description of the test item : One sample consisting of 6 nos. Of Aluminium Through connectors,ECC brand crimped with Aluminium conductors of area 300 sq. mm.

Identification of the test item : -----

Product Specification(if any) : IEC-61238-1-2003

Date of receipt of test Item : 16/02/2017

Date of performance of Test : From : 24/02/2017 To: 09/05/2017

Method(s) used for Test : Generally as per IEC-61238-1-2003

Sampling Procedure where relevant : NA

Tested by :

Daleep.G.Desai
Scientist -SB (Electrical)

Checked by:

K.Mohanan
Scientist -SB (Electrical)

Approved by :

K.Mohanan
Scientist -SB (Electrical)

13865



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One sample consisting of 6 nos. of Aluminium Through connectors, "ECC" brand crimped with Aluminium conductors of area 300mm². were Manufactured by Electro Crimp Contacts(I) Pvt. Ltd.

Six connectors were marked 1 to 6 for identification purpose.

As desired, the sample was subjected to the following tests generally as per IEC-61238-1-2003 with the results noted below:-

1. Electrical test requirement (Cl. 6):

a) Connector Resistance factor :- (K)

Connect or	No. of Cycles											
	0	250	325	400	475	550	625	700	775	850	925	1000
1	0.930	0.963	0.985	0.985	0.985	0.985	0.963	0.985	0.985	1.007	1.040	1.040
2	0.930	0.963	0.985	0.985	0.985	0.985	0.963	0.985	0.985	1.007	1.040	1.040
3	0.930	0.958	0.985	0.985	0.985	0.963	0.985	1.007	0.985	0.985	1.040	1.040
4	0.930	0.958	0.985	0.985	0.985	0.963	0.985	1.007	0.985	0.985	1.040	1.040
5	0.925	0.930	0.963	0.985	0.985	0.985	1.007	0.985	1.007	0.985	0.985	0.985
6	0.925	0.930	0.963	0.985	0.985	0.985	1.007	0.985	1.007	0.985	0.985	0.985

b) Initial scatter δ (Specified Maximum Value: 0.30):-- Observed value : 0.005

c) Mean Scatter β (Specified Maximum Value : 0.30): -- Observed value : 0.009

Rusai

Yohannan

Yohannan



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d) Change in Resistance factor, D:- (Specified Maximum Value : 0.15)

Connector	1	2	3	4	5	6
D	0.097	0.097	0.099	0.099	0.075	0.075

e) Resistance factor Ratio λ :- (Specified Maximum Value : 2.0) : Observed maximum value : 1.12

Connector	No. of Cycles										
	250	325	400	475	550	625	700	775	850	925	1000
1	1.035	1.059	1.059	1.059	1.059	1.035	1.059	1.059	1.082	1.118	1.118
2	1.035	1.059	1.059	1.059	1.059	1.035	1.059	1.059	1.082	1.118	1.118
3	1.029	1.059	1.059	1.059	1.035	1.059	1.082	1.059	1.059	1.118	1.118
4	1.029	1.059	1.059	1.059	1.035	1.059	1.082	1.059	1.059	1.118	1.118
5	1.006	1.041	1.065	1.065	1.065	1.089	1.065	1.089	1.065	1.065	1.065
6	1.006	1.041	1.065	1.065	1.065	1.089	1.065	1.089	1.065	1.065	1.065

f) Maximum temperature θ max :- (Specified Value of θ ref: 120°C-140°C)

Connector	1	2	3	4	5	6	Ref. Conductor Temp., °C
θ Max: °C	111	111	110	110	110	110	122

Dasai

Johanan

Johanan



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2) Mechanical test (cl.7):

Tensile force of 12 kN was applied : No Slipping occurred during the test
for a period of one minute.

Note : i) Following Plots are enclosed herewith and they form a part of the Test Certificate.

- No. of cycles V/s connector Resistance Factor, CRF(K) (Annexure-I)
 - No. of cycles Vs Connector Temperature .(Annexure-II)
- Drawing attached is part of the test certificate.
 - Crimping was done using Hydraulic Crimping Tool of Haupa make model no. 216667/M.
 - The Test was witnessed by Mr. Abhijit Dandekar, Dy. Manager Operations & Maintenance, Reliance Infrastructure Ltd.
 - The average ambient conditions of the laboratory during the period of the test was:

Temperature , °C	: 30
Relative humidity, %	: 60

Remarks:- The sample complies with the requirement of the specification IEC-61238-1-2003 in respect of the tests carried out.

Tested By

Daleep G.Desai
Scientist SB(Electrical)

Checked By

K.Mohanan
Scientist SB(Electrical)

Approved By

K.Mohanan
Scientist SB(Electrical)



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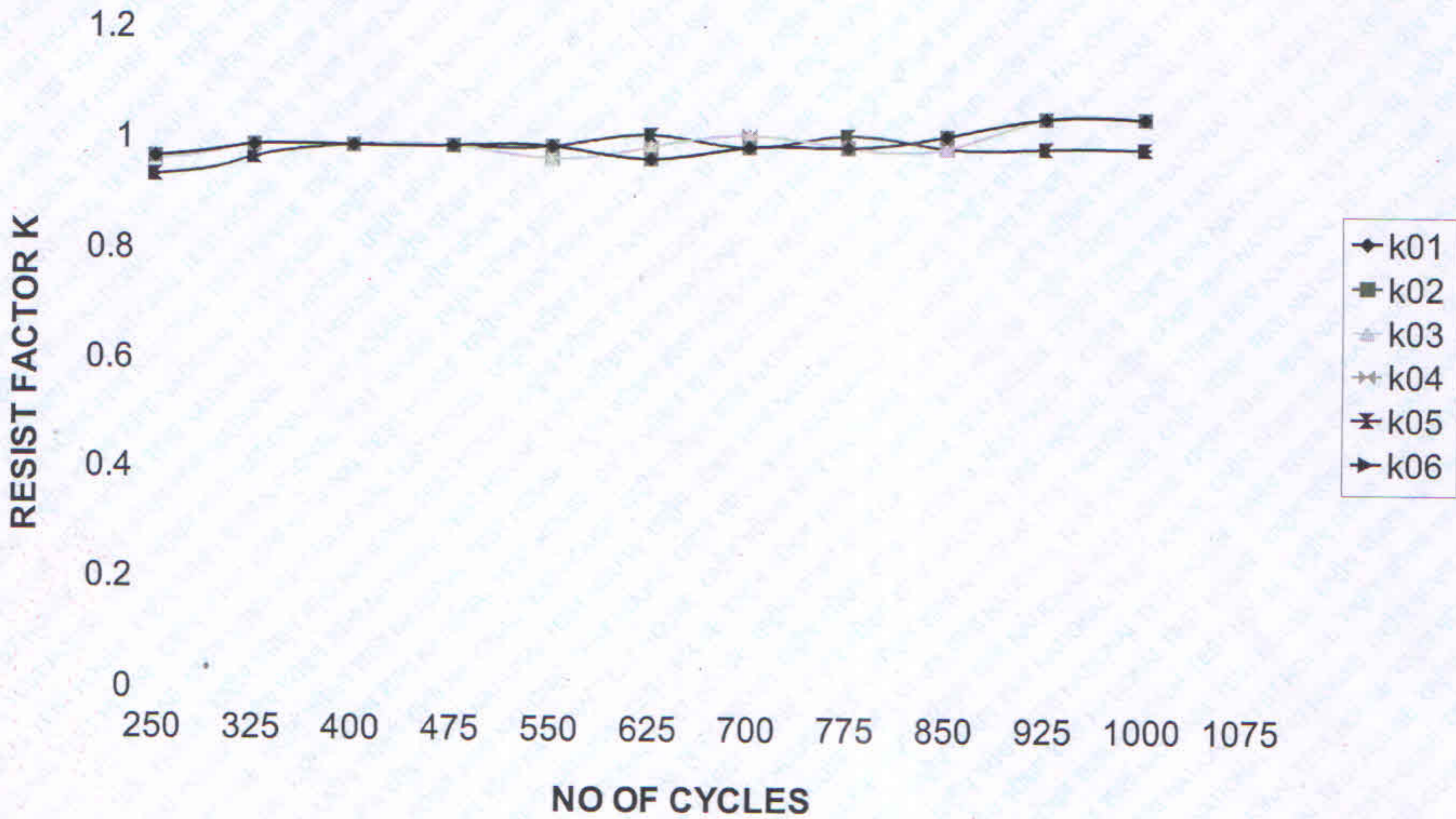
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(Annexure-I)

No. of cycles V/s connector Resistance Factor

RESIST.FACTOR K Vs NO OF CYCLES



Tested By

Daleep G. Desai
Daleep G. Desai
Scientist SB(Electrical)

Checked By

K. Mohanan
K. Mohanan
Scientist SB(Electrical)

Approved By

K. Mohanan
K. Mohanan
Scientist SB(Electrical)



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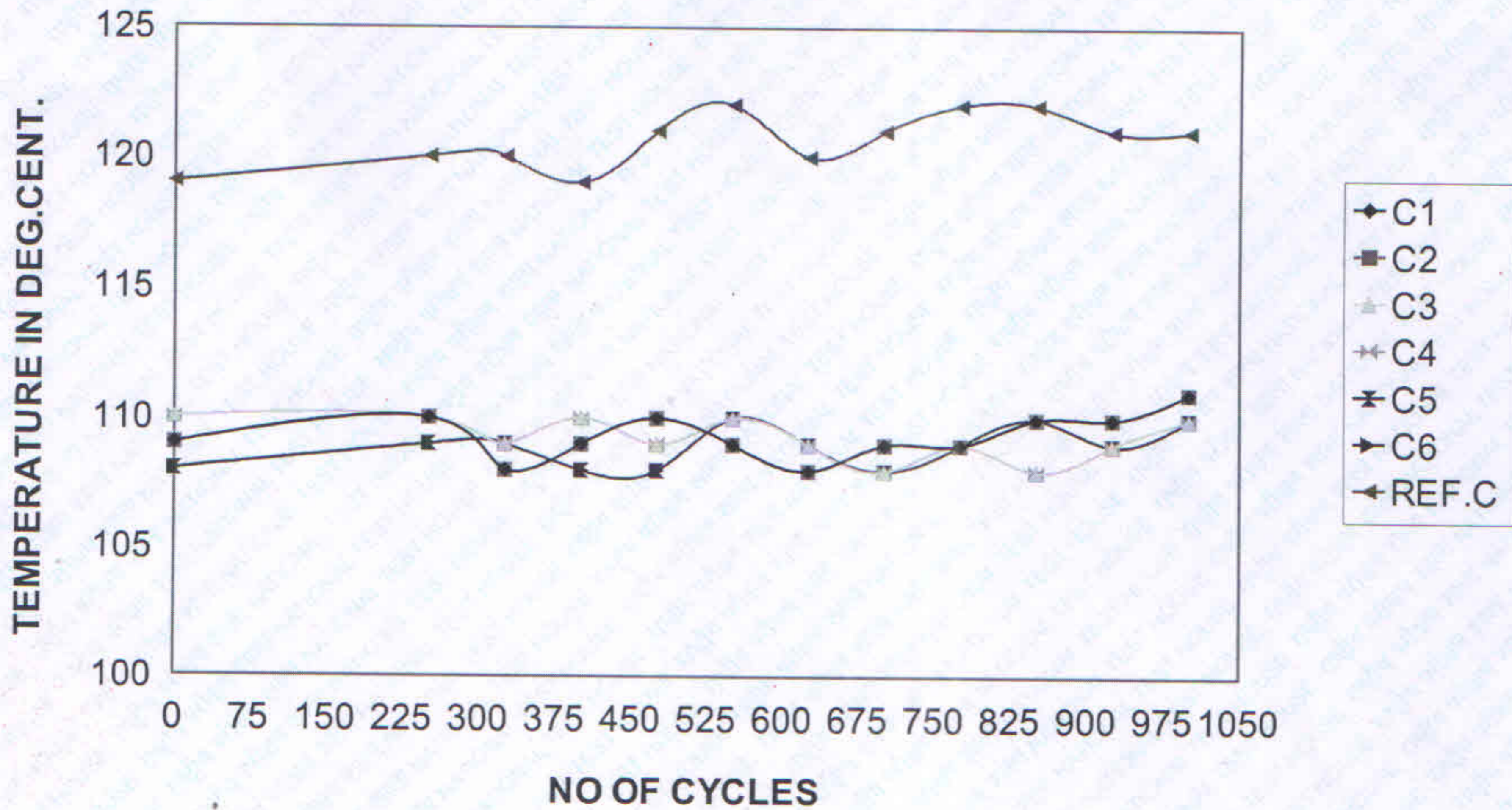
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(Annexure-II)

No. of cycles Vs Connector Temperature.

TEMPERATURE VS NO OF CYCLES



Tested By

Daleep G. Desai
Scientist SB(Electrical)

Checked By

K Mohanan
Scientist SB(Electrical)

Approved By

K Mohanan
Scientist SB(Electrical)

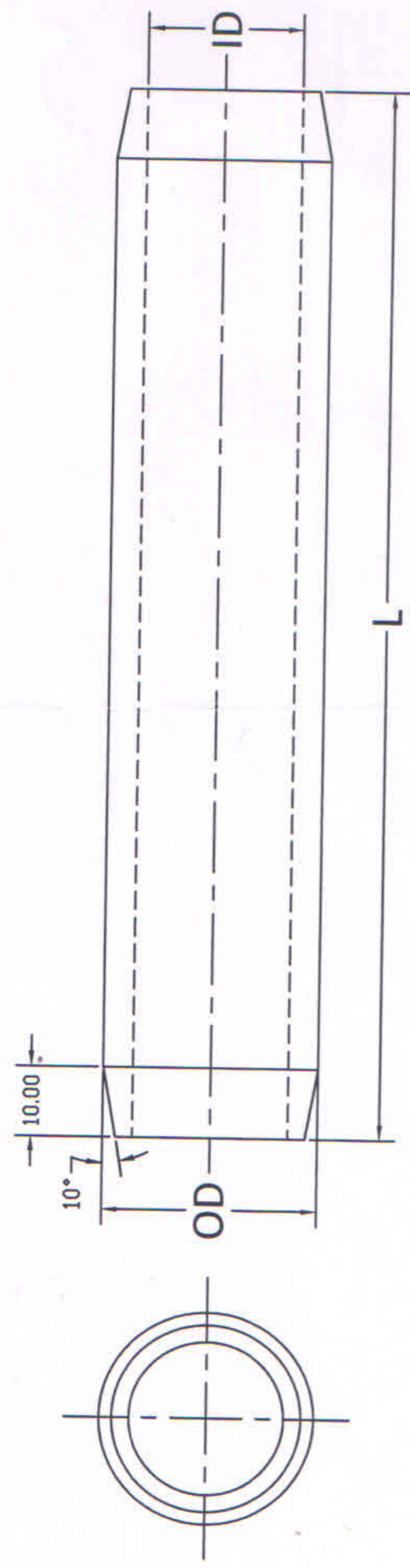
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Sr. No.	Size Combination	Type Of Conductor	ID	OD	L	R	ID1
1	300XLPE-300XLPE	C.C	21.8	30.2	150.0	-	-

As Per Reliance Energy Drg. No. MISC/E/4-1071/1638

TOLERANCE:- Diameter ± 0.30 mm
Length ± 3.0 mm

Notes:-
1) All Dimensions Are In mm
2) Material For Ferrule =99% Electrolytic Grade Aluminum.
3) Ferrule Should be Fitted With Corrosion Inhibiting Paste & Sealed With Caps.
4) Conductivity For Aluminum Min:- 60%, Size And Make Shall be Embossed.

Bisai

Approved By
Prasanna
वैज्ञानिक एस. बा.
राष्ट्रीय परीक्षण शाला (प. कं.)
मुंबई - १३.

CONTACTS (P) PVT. LTD. ALL RIGHTS RESERVED TO A PERSON WITHOUT ELECTRO CRIMP CONTACTS AUTHORIZATION IS PROHIBITED	PROPERTY OF Electro Crimp CONTACTS (P) PVT. LTD. NO. 10/11, MIDC SECTOR 10, BANGALORE (P) PVT. LTD. WRITTEN AUTHORIZATION IS PROHIBITED		APPROVED BY <i>Prasanna</i> वैज्ञानिक एस. बा. राष्ट्रीय परीक्षण शाला (प. कं.) मुंबई - १३.		QUANTITY FINISH: Natural	MATERIAL: Aluminum - 60% Min.	DATE 16/02/17	SIGN <i>Prasanna</i>	NAME ECC	DESIGN DRAWN CHECKED APPROVED
	TOLERANCE General		ALL DIMENSIONS ARE IN MM		TITLE: Electro Crimp Contacts (I) Pvt Ltd 441771 MIDC Seipur Nasik, India 422007	PART NO. 300XLPE - 300XLPE	DATE 16/02/17	SIGN (Signature)	NAME ECC	DESIGN DRAWN CHECKED APPROVED
	HOLES ANGLES		DRG. NO. ECC300X-300X		REV 0	PART NO. 300XLPE - 300XLPE	DATE 16/02/17	SIGN (Signature)	NAME ECC	DESIGN DRAWN CHECKED APPROVED
	HOLES ANGLES		DRG. NO. ECC300X-300X		REV 0	PART NO. 300XLPE - 300XLPE	DATE 16/02/17	SIGN (Signature)	NAME ECC	DESIGN DRAWN CHECKED APPROVED