

India's Best Companies  
To Work For 2017  
THE ECONOMIC TIMES

**Raychem RPG**



# ENGINEERING GROWTH PIONEERING EXCELLENCE



( A TE-Connectivity - RPG Enterprises JV )



# Enclosures for Harsh, Demanding and Explosive Atmospheres



# Raychem RPG's Junction Box Product Profile



**Industrial**



**Aluminium**  
(RJ Series)



**GRP**  
(GRJ Series)



**Fabricated**  
(MSJ,SSJ)



**ATEX**



**Aluminium**  
(ExRJ)



**GRP**  
(ExGRJ)



**Fabricated**  
(SJB)



**Fire Rated**



**Aluminium**  
(FRAJB)



**Fabricated**  
(FRJB)



## Aluminium Standard Enclosures



**TECHINICAL SPECIFICATION**

Material	AlSi12, as per DIN EN 1706
Colour	RAL 7001, 7031, 7032, 7035, 7038, Black RAL 9004 Other colour on request
Protection	IP 66 as per IEC 60529 IP67, IP68 and IP69K is available on request
Gasket	Neoprene Gasket Silicone, Viton and EMC on request
Lid Screw	Stainless Steel 1.4301 (A2), Captive Mechanism (M4/M6)
Tightening Torque	2 Nm to 3 Nm
Impact Strength	Impact Energy of 10 Joules - IK 09 as per EN 60068-2-75
Service Temperature	-40 °C to +100 °C (with Neoprene Gasket) -50 °C to +135 °C (with Silicone Gasket)
Surface	Painted / Non - Painted (Pretreated)







30  
**Zn**  
0.1%  
Zinc

14  
**Si**  
10.5%  
Silicon

29  
**Cu**  
0.08%  
Copper

12  
**Mg**  
0.05%  
Magnesium

22  
**Ti**  
0.15%  
Titanium

26  
**Fe**  
0.8%  
Iron

25  
**Mn**  
0.4%  
Manganese

**AlSi 12  
Grade**

The ripple effects of small contributions  
produces extraordinary results

**Raw  
Material:  
AlSi12**

as per DIN EN 1706

# Sizes (Total 31)



Raychem Part No.	Y--> Yes			Standard Accessories					
	Sizes-Dimensions External			Mounting Plate	M6 External Brackets	External Hinges	Internal Hinge	DIN rail for terminals	
	Length	Width	Height					TS15	TS35
RJ01	50	45	30	-	-	-	-	-	-
RJ02	98	64	34	-	-	-	-	-	-
RJ03	150	64	34	-	-	-	-	-	-
RJ04	58	64	34	-	-	-	-	-	-
RJ05	75	80	57	Y	-	-	-	Y	-
RJ06	125	80	57	Y	-	-	-	Y	-
RJ07	175	80	57	Y	-	-	-	Y	-
RJ08	250	80	57	Y	-	-	-	Y	-
RJ09	100	100	81	Y	Y	Y	-	Y	-
RJ10	160	100	81	Y	Y	Y	-	Y	-
RJ11	122	120	81	Y	Y	Y	-	-	Y
RJ21	220	120	81	Y	Y	Y	-	-	Y
RJ22	122	120	91	Y	Y	Y	-	-	Y
RJ12	220	120	90	Y	Y	Y	-	-	Y
RJ36	140	140	90	Y	Y	Y	Y	-	Y
RJ37	200	140	90	Y	Y	Y	Y	-	Y
RJ15	160	160	91	Y	Y	Y	Y	-	Y
RJ13	260	160	90	Y	Y	Y	Y	-	Y
RJ14	360	160	90	Y	Y	Y	Y	-	Y
RJ28	180	180	100	Y	Y	Y	Y	-	Y
RJ29	280	180	100	Y	Y	Y	Y	-	Y
RJ19	200	230	110	Y	Y	Y	Y	-	Y
RJ17	280	230	110	Y	Y	Y	Y	-	Y
RJ18	330	230	111	Y	Y	Y	Y	-	Y
RJ30	200	230	180	Y	Y	Y	Y	-	Y
RJ20	330	230	180	Y	Y	Y	Y	-	Y
RJ31	400	310	110	Y	Y	Y	Y	-	Y
RJ32	400	310	180	Y	Y	Y	-	-	Y
RJ33	600	310	110	Y	Y	Y	-	-	Y
RJ34	600	310	180	Y	Y	Y	-	-	Y
RJ35	400	230	110	Y	Y	Y	-	-	Y

## Accessories available



Mounting Plate



Mounting Bracket



Internal Hinges



External Hinges



DIN Rail

# Powder Coating

- Pure Polyester Powder – Suitable for outdoor application with higher UV and temperature resistance
- Henkel's 9 Tank surface preparation process
  1. Neutral Salt Spray Test – Standard offering as per *DIN EN ISO 9227*  
**>700 Hours**
  2. Highest level of corrosivity category C5-M (Marine) Neutral salt spray + Water condensation test as per *DIN EN ISO 12944-2*  
**1200 Hours**  
*Available on request*
  3. Cyclic corrosion requirement (Severity level 6 – Highest) Cyclic testing of Salt spray + Condensation + Temperature as per *IEC 60068-2-52*  
8 Cycles of 7 Days – Total **1344 hours**  
*Available on request*







- All Vertical Milling machine operation
- Screen printing
- Engraving
- Pad printing etc.



## Certifications and Approvals

Redefining the benchmarks in quality  
for a safer future



# Aluminium Enclosures



## COMPONENT

II 2 G Ex e IIC Gb  
 II 2 D Ex tb IIIC Db IP66  
 DEMKO 13 ATEX 1327771U  
 IECEx UL 13.0042U

## EQUIPMENT

CE 0539  II 2 G Ex e IIC T5, T6 Gb  
 CE 0539  II 2 D Ex tb IIIC T 85°C Db IP66  
 -50°C ≤ Ta ≤ +50°C , +65°C  
 DEMKO 14 ATEX 1318X  
 IECEx UL 14.0036X



IP 66





# ATEX and IECEx Certificate issued by UL

**EC-TYPE EXAMINATION CERTIFICATE**



Component intended for use on/in equipment or protective system  
intended for use in Potentially Explosive Atmospheres  
Directive 84/8/EEC

EC-Type Examination Certificate Number: **DEMKO 13 ATEX 1327771U Rev. 0**

Component: **Aluminium Enclosures**

Manufacturer: **RAYCHEM RPG PVT LTD**

Address: **CEAT MAHAL ANNEXE 463, DR ANNIE BESANT ROAD, WORLI, MUMBAI, 400030 INDIA**

This Component and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

UL International Demko A/S, notified body number 0530 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to design and construction of components intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. **13CA27771**

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 80078-0:2012    EN 80078-7:2007    EN 80078-31:2009**

The sign "U" placed after the certificate number indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

This EC-Type examination certificate relates only to the design, examination and tests of the specified component in accordance with the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.

The marking of the component shall include the following:

 **Ex II 2 G    Ex g IIC Gb**

 **Ex II 2 D    Ex tb IIIC Db    IP66**

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**Certification Manager**  
Jan-Erik Storgaard

*Jan Erik Storgaard*

**Notified Body**

UL International Demko A/S, Bollerup 5A, 2750 Bollerup, Denmark.  
Tel. +45 44 85 55 65, [info.dtk@ul.com](mailto:info.dtk@ul.com), [www.ul.com](http://www.ul.com)



This is to certify that the sample(s) of the Component described herein ("Certified Component") has/have been designed and found in compliance with the Markings indicated on this Certificate in accordance with the ATEX Equipment Certification Program Requirements. This certificate and test results obtained apply only to the component sample(s) submitted by the Manufacturer. It does not extend to sample(s) or determine whether the sample(s) provided were representative of other manufactured component(s). See our established Follow-Up Service or other surveillance of the component. The Manufacturer is solely and fully responsible for conformity of all components to all applicable standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2013-12-16




## IECEx Certificate of Conformity

**INTERNATIONAL ELECTROTECHNICAL COMMISSION**  
IEC Certification Scheme for Explosive Atmospheres  
For rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.	IECEx UL 13.042U	Issue No. 0	Certificate history Issue No. 0 (2013-12-11)
Status:	<b>Current</b>	Page 1 of 3	
Date of Issue:	2013-12-11		
Applicant:	<b>RAYCHEM RPG LTD</b> CEAT MAHAL ANNEXE 463 DR ANNIE BESANT ROAD WORLI MUMBAI 400030 India		
Electrical Apparatus	<b> Junction Boxes</b>		
Optional accessory:			
Type of Protection:	<b>Increased Safety "G" and Dust "D"</b>		
Marking:	Ex e IIC Gb Ex tb IIC Db IP66		
Approved for issue on behalf of the IECEx:	Paul T. Kelly		
Certification Body:	Principal Engineer, Global Hazardous Locations		
Position:	<i>Paul T. Kelly</i>		
Signature: (for printed version)			
Date:	2013-12-11		

1. This certificate and schedule may only be reproduced in full.  
2. This certificate is not transferable and remains the property of the issuing body.  
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

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Certificate issued by:

UL LLC  
930 Phylston Road  
Northbrook IL 60062-3098  
United States of America







## Glass Reinforced Polyester (GRP) Enclosures





Colour Shade : RAL 9011 (Graphite Black)

Impact Resistance: > 7 Joules

Surface resistance: <  $10^9 \Omega$

Flammability V0, Self Extinguishing  
as per UL 94

Toxicity Free from Halogen

Colour Shade : RAL 7000

Impact Resistance : > 7 Joules

Surface resistance : >  $10^{12} \Omega$

Flammability V0, self Extinguishing  
as per UL 94

Dielectric Strength 18Kv/mm

Toxicity Free from Halogen



## TECHINICAL SPECIFICATION

Material	Glass Reinforced Polyester
Colour	RAL 7000 (Grey) / RAL 9011 (Black)
Protection	IP 66 as per IEC 60529 IP67, IP68 is available on request
Gasket	Neoprene Gasket Silicone on request
Lid Screw	Stainless Steel 1.4301 (A2), Captive Mechanism (M4/M6)
Tightening Torque	2 Nm to 3 Nm
Impact Strength	Impact Energy of 7 Joules
Service Temperature	-40 °C to +80 °C (with Neoprene Gasket) -50 °C to +100 °C (with Silicone Gasket)

# Total 21 Sizes Available !



Raychem RPG Box Part code	GRP Sizes		
	L	W	H
GRJ01	80	75	55
GRJ02	110	75	55
GRJ03	122	120	90
GRJ04	80	75	75
GRJ05	160	75	55
GRJ06	160	75	75
GRJ07	160	160	90
GRJ08	110	75	75
GRJ09	190	75	55
GRJ10	190	75	75
GRJ11	220	120	90
GRJ12	255	250	120
GRJ13	260	160	90
GRJ14	360	160	90
GRJ15	400	250	120
GRJ16	400	405	120
GRJ17	255	250	160
GRJ18	400	250	160
GRJ19	400	405	201
GRJ20	600	250	121
GRJ21	600	250	161

## Accessories available



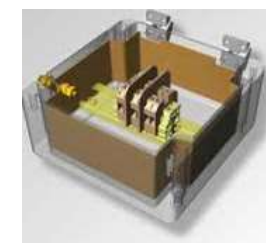
Mounting Plate



Mounting Bracket



DIN Rail



Internal Earth continuity plate





# Glass Reinforced Polyester (GRP) Enclosures

## COMPONENT

II 2 G Ex e IIC Gb  
II 2 D Ex tb IIIC Db IP66

DEMKO 15 ATEX 1475U  
IECEX UL 15.0045U

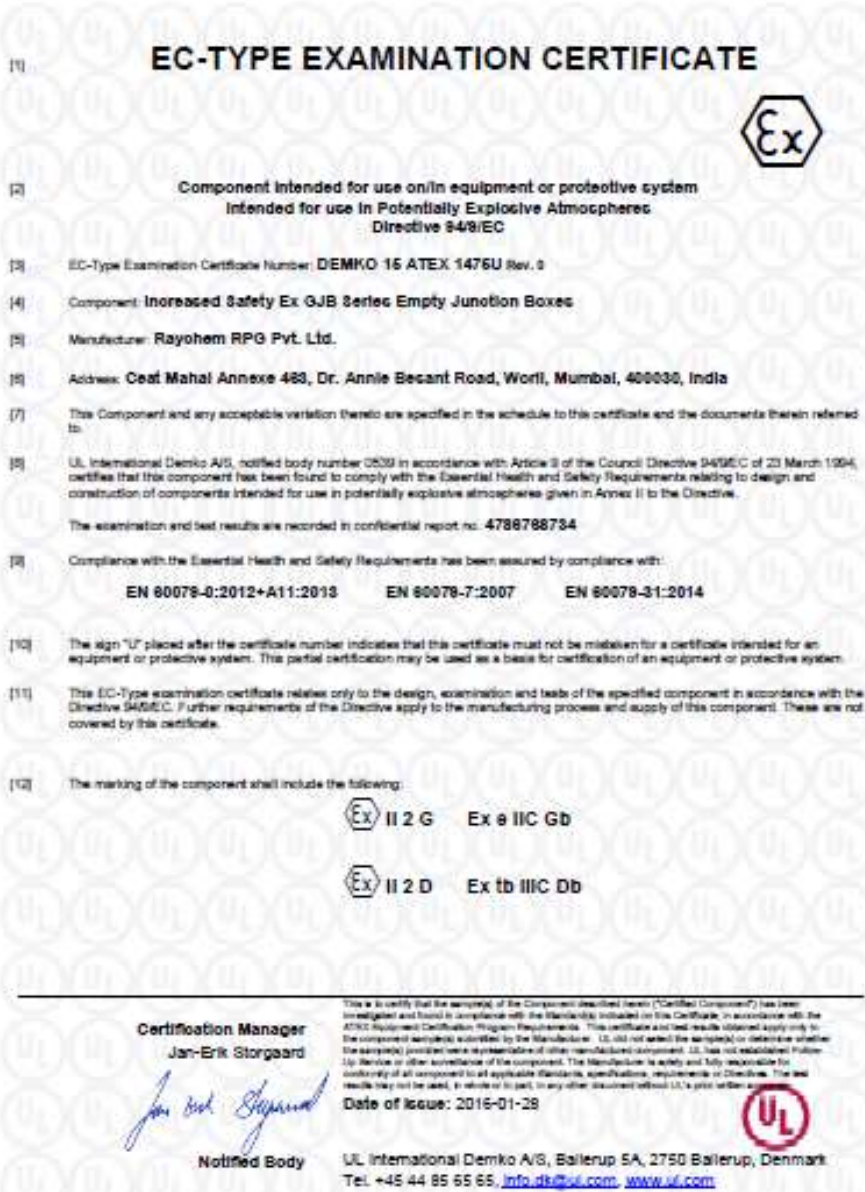

## EQUIPMENT

CE 0539  II 2 G Ex e IIC T5, T6 Gb  
CE 0539  II 2 D Ex tb IIIC T100°C Db  
IP 66  
-50°C ≤ Ta ≤ +40°C, +50°C  
DEMKO 15 ATEX 1621X  
IECEX UL 15.0146X



# ATEX and IECEx Certificate issued by UL

**EC-TYPE EXAMINATION CERTIFICATE**

**Component intended for use on/in equipment or protective system  
Intended for use in Potentially Explosive Atmospheres  
Directive 94/9/EC**

EC-Type Examination Certificate Number: **DEMKO 15 ATEX 1476U Rev. 0**

Component: **Increased Safety Ex GJB Series Empty Junction Boxes**

Manufacturer: **Raychem RPG Pvt. Ltd.**

Address: **Ceat Mahal Annexe 483, Dr. Annie Besant Road, Worli, Mumbai, 400030, India**

This Component and any acceptable variation therein are specified in the schedule to this certificate and the documents therein referred to.

UL International Demko A/S, notified body number 0209 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to design and construction of components intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. **4786788734**


Compliance with the Essential Health and Safety Requirements has been assured by compliance with:


**EN 60078-0:2012+A11:2013    EN 60078-7:2007    EN 60078-31:2014**

The sign "U" placed after the certificate number indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

This EC-Type examination certificate relates only to the design, examination and tests of the specified component in accordance with the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.


The marking of the component shall include the following:

 **Ex II 2 G**    **Ex e IIC Gb**

 **Ex II 2 D**    **Ex tb IIIC Db**


---

**Certification Manager**  
Jan-Erik Storgaard



**Notified Body**

UL International Demko A/S, Ballerup EA, 2750 Ballerup, Denmark  
Tel: +45 44 85 65 65, [info.dk@ul.com](mailto:info.dk@ul.com), [www.ul.com](http://www.ul.com)





## IECEx Certificate of Conformity

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**INTERNATIONAL ELECTROTECHNICAL COMMISSION**  
IEC Certification Scheme for Explosive Atmospheres  
for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

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Certificate No.:	IECEx UL 15.0045U	Issue No. 0	Certificate history: Issue No. 0 (2016-01-28)
Status:	Current	Page 1 of 3	
Date of issue:	2016-01-28		
Applicant:	Raychem RPG Pvt. Ltd. Ceat Mahal Annexe 483 Dr. Annie Besant Road Worli, Mumbai, 400030 India		
Electrical Apparatus:	Increased Safety Ex GJB series Empty Junction Boxes		
Optional accessory:			
Type of Protection:	Increased Safety "n" and Dust Ignition Protection by Enclosure "B"		
Marking:	Ex e IIC Gb Ex tb IIC Db		
Approved for issue on behalf of the IECEx:	Erin LaRocco		
Certification Body:			
Position:	Senior Project Engineer		
Signature: (for printed version)	_____		
Date:	_____		

1. This certificate and schedule may only be reproduced in full.  
2. This certificate is not transferable and remains the property of the issuing body.  
3. The status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

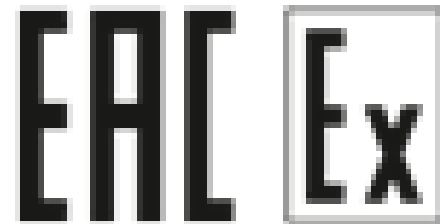
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Certificate issued by:

UL LLC  
333 Pingston Road  
Northbrook IL 60062-3096  
United States of America



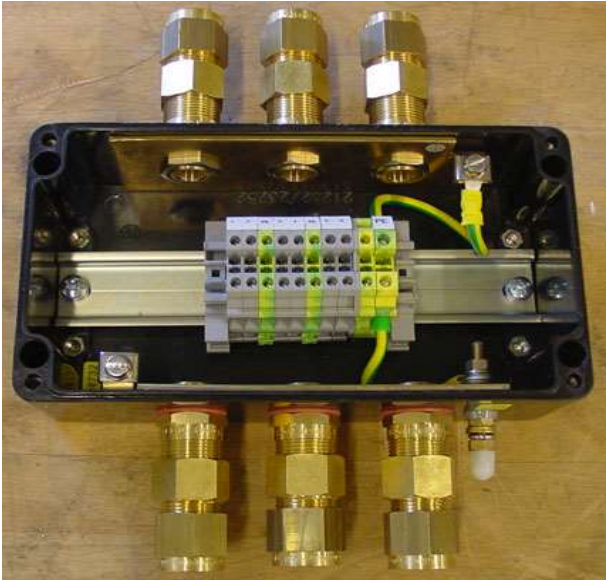
# Certifications and Approvals





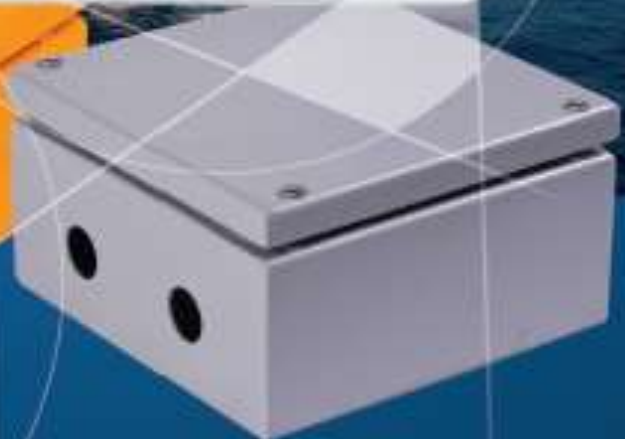
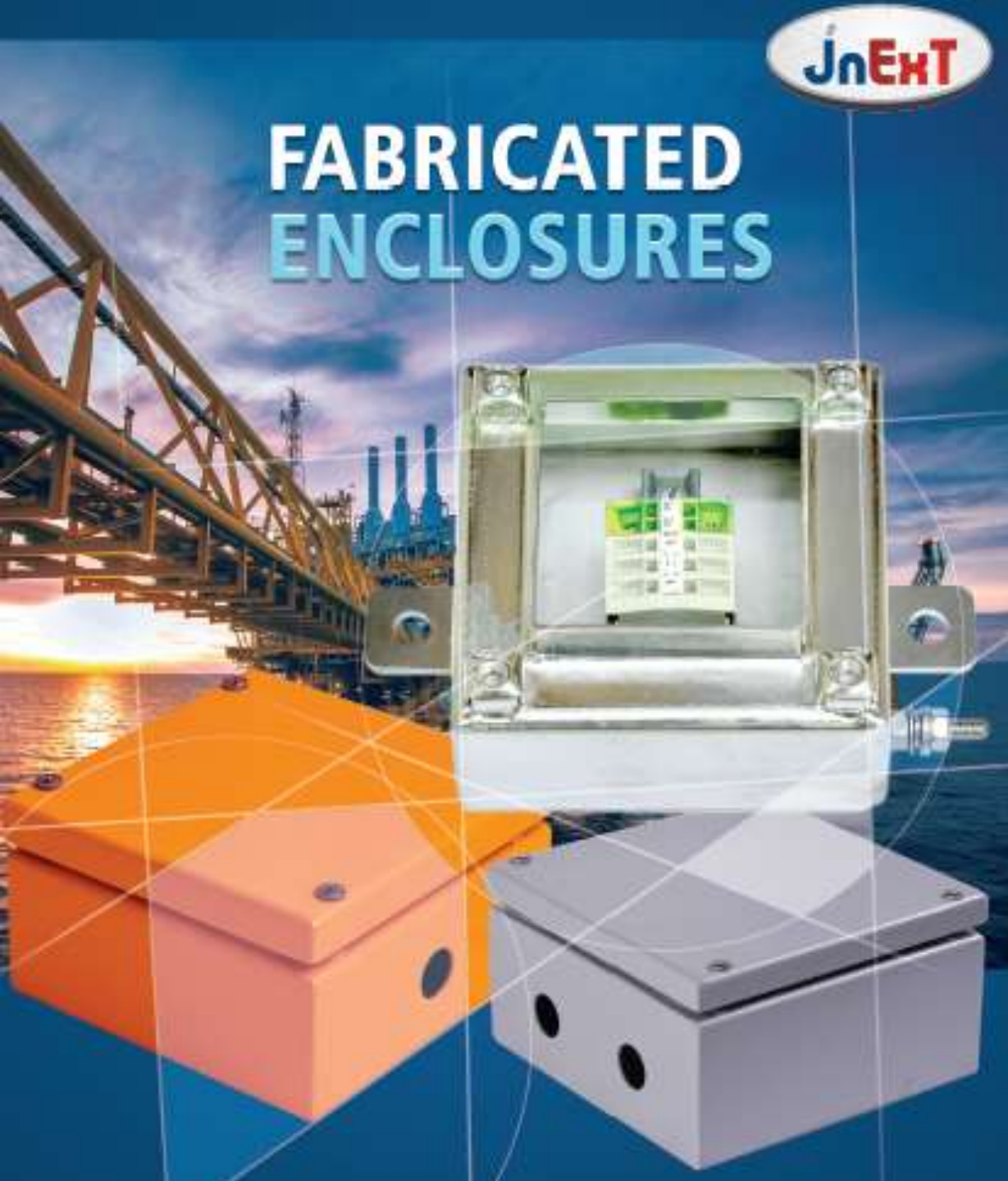
# Customization

Raychem **RPG**





# FABRICATED ENCLOSURES



- Types
  - Industrial
  - ATEX
  - Fire Rated
  
- Raw Material
  - **Stainless Steel**  
*(SS 304, 316, 316L)*
  - Mild Steel
  - **GI Sheet**  
*(Galvanized Iron)*

# Stainless Steel

## Technical Data

### Material :

Stainless steel 1.25 mm or 1.5 mm; 1.4301 / 304 / 316 other materials on request.

### Ingress Protection :

IP 66 to EN 60529

### Seal :

VMQ (silicone)

### Surface :

grinded, grain 240  
other surface on request

### Temperature Range :

-20°C to +80°C



(A TE-Connectivity - RPG Enterprises JV)

Sr. No.	Part Number	Sizes		
1	SSJ1	100	100	61
2	SSJ2	150	100	61
3	SSJ3	150	150	81
4	SSJ4	200	100	61
5	SSJ5	200	200	81
6	SSJ6	200	200	121
7	SSJ7	300	150	81
8	SSJ8	300	200	81
9	SSJ9	300	200	121
10	SSJ10	300	300	121
11	SSJ11	300	300	161
12	SSJ12	380	380	161
13	SSJ13	400	150	81
14	SSJ14	400	200	121
15	SSJ15	400	300	161
16	SSJ16	500	300	161
17	SSJ17	500	400	161
18	SSJ18	600	200	121

# Features



# Mild Steel Enclosures

## Key Features

- Value addition through machining of conduit holes
- Gasket options – Neoprene & EPDM (High temperature resistant)
- Ingress Protection : IP65
- TIG welded (oxide free) for sound joints
- Powder coated finish (RAL color shade as per choice)
- Thickness 1.5 – 3mm
- Stainless Steel Screws



SR NO.	Model No	SIZES
		LxWxH
1	MSJ01	100 x 100 x 61
2	MSJ02	150 x 100 x 61
3	MSJ03	150 x 150 x 81
4	MSJ04	200 x 100 x 61
5	MSJ05	200 x 200 x 81
6	MSJ06	200 x 200 x 121
7	MSJ07	300 x 150 x 81
8	MSJ08	300 x 200 x 81
9	MSJ09	300 x 200 x 121
10	MSJ10	300 x 300 x 121
11	MSJ11	300 x 300 x 161
12	MSJ12	380 x 380 x 161
13	MSJ13	400 x 150 x 81
14	MSJ14	400 x 200 x 121
15	MSJ15	400 x 300 x 161
16	MSJ16	500 x 300 x 161
17	MSJ17	500 x 400 x 161
18	MSJ18	600 x 200 x 121





Stainless Steel  Enclosures



## Product Specification and marking

### Standard Materials :

Enclosure: Mild steel (Minimum Thickness: 2mm)

Stainless Steel 316 or 304 (Minimum Thickness: 1.5mm)

Hardware: Mild steel or 316/304 Stainless Steel

### Empty Enclosures (Component)

### Terminal Junction Box (Equipment)

#### Technical Data for Empty Enclosure (U) :

Explosion Protection:  II 2 G Ex e IIC Gb  
 II 2 D Ex tb IIIC Db



Certificates: Sira 17ATEX3133U

Ingress Protection: IP 66 according to IEC 60529

Impact Resistance: 7 Joules (N-m)

Temperature Range: -20°C to +75°C (Neoprene)  
 -40°C to +110°C (EPDM)  
 -50°C to +185°C (Silicone)

#### Technical Data for Terminal Enclosure (X):

Explosion Protection:  II 2 G Ex e IIC T6/T5 Gb  
 II 2 D Ex tb IIIC T85°C/T100°C Db

Certificates: Sira 17ATEX3132X  
 IECEX SIR 17.0027X

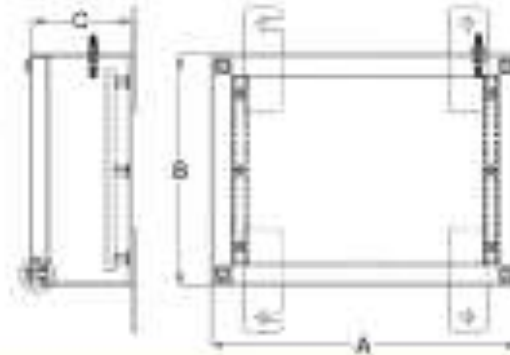
Ingress Protection: IP 66 according to IEC 60529

Impact Resistance: 7 Joules (N-m)

Temperature Range: -20°C to T6/T75°C (Neoprene)  
 -40°C to T6/T85°C or T5/T100°C (EPDM)  
 -55°C to T6/T85°C or T5/T100°C (Silicone)

**PRODUCT DESCRIPTION**

PRODUCT CODE	'A' HEIGHT	'B' WIDTH	'C' DEPTH
SJB 0	110	110	65
SJB 1	143	143	93
SJB 151590	150	150	90
SJB 191910	190	190	100
SJB 2A	193	193	186
SJB 3	220	165	130
SJB 3A	218	168	210
SJB 3B	377	218	156
SJB 3C	377	218	210
SJB 3H	218	168	130
SJB 3AH	218	168	210
SJB 3BH	377	218	156
SJB 3CH	377	218	210
SJB 231513	229	152	130
SJB 262615	260	265	150
SJB 262620	260	265	200
SJB 303015	306	306	150
SJB 303020	306	306	200
SJB 352615	350	265	150
SJB 352620	350	265	200
SJB 4	377	377	156
SJB 4A	377	377	210
SJB 453815	458	382	150
SJB 453820	458	388	200
SJB 484815	480	480	150
SJB 484820	480	480	200



**44 Sizes !  
Customised  
size option  
available**

PRODUCT CODE	'A' HEIGHT	'B' WIDTH	'C' DEPTH
SJB 5	527	427	156
SJB 5B	530	530	150
SJB 5C	527	527	210
SJB 553615	550	360	150
SJB 553620	550	360	200
SJB 765015	762	508	150
SJB 765020	762	508	200
SJB 6	827	577	156
SJB 6A	827	577	210
SJB 6B	827	577	300
SJB 916120	920	610	200
SJB 7	977	677	208
SJB 7A	977	677	156
SJB 7B	977	677	300
SJB 8	1177	777	156
SJB 8A	1177	777	210
SJB 8B	1190	770	300
SJB 20020060	2000	2000	600



# Certificates



## EU TYPE-EXAMINATION CERTIFICATE

Component intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

Certificate Number: **Sira 17ATEX3133U** Issue: **1**

Component: **SJB Range of Empty Metal Enclosures**

Applicant: **Raychem RPG (P) Ltd**

Address: **Cast Mahal, Annex 463  
Dr. Annie Besant Road  
Worli, Mumbai 40030  
Maharashtra  
India**

This component and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

Sira Certification Service, notified body number 0518 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

<b>Category 1</b>	<b>Category 2</b>
EN 60079-0: 2006	EN 60079-0: 2009
EN 60079-11: 2007	EN 60079-7: 2007
EN 61241-0: 2006	EN 61241-0: 2006
EN 61241-1: 2004 (inc. corrigendum No. 1 & 2)	EN 61241-1: 2004 (inc. corrigendum No. 1 & 2)
EN 60079-0: 2009 (used for guidance in respect of marking)	EN 60079-31: 2009 (used for guidance in respect of marking)

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

The sign 'U' is placed after the certificate number to indicate that the product assessed is a component and may be subject to further assessment when incorporated into equipment. Any schedule of limitations are listed in the schedule to this certificate.

This EU type-examination certificate relates only to the design and construction of the specified component. If applicable, further requirements of this Directive apply to the manufacture and supply of this component.

The marking of the component shall include the following:

II 1 G D	II 2 G D
Ex Ia IIC Ga	Ex e IIC Gb
Ex Ia IIIC Da	Ex tb IIIC Db
IP66	

C. Elaby  
Deputy Certification Manager

**Sira Certification Service**  
Unit 6 Hawarden Industrial Park,  
Hawarden, CH5 3US, United Kingdom

Tel: +44 (0) 1244 870000  
Fax: +44 (0) 1244 861330  
Email: [siraf@sira.com](mailto:siraf@sira.com)  
Web: [www.sira.com/uk](http://www.sira.com/uk)

Project Number 701794015

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## IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION  
IEC Certification Scheme for Explosive Atmospheres

For more details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEx SIR 17.6027X**

Issue No: **1**

**Certificate history**  
Issue No. 1 (2018-04-27)  
Issue No. 0 (2017-10-03)

Status: **Current**

Date of issue: **2018-04-27**

Page 1 of 4

Applicant: **Raychem RPG (P) Ltd  
Cast Mahal, Annex 463  
Dr. Annie Besant Road  
Worli, Mumbai 40030  
Maharashtra  
India**

Equipment: **SJB and Ex E-UIB Ranges of Metal Junction Boxes**

Optional accessory:

Type of Protection: **Increased Safety, Intrinsically safe and Dust Protection by Enclosure**

Marking: **Refer to the Annex**

Approved for issue on behalf of the IECEx

C. Elaby

Certification Body:

Position:

Deputy Certification Manager

Signature:  
(For printed version)

2018-04-27

Date:

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- The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

**SIRA Certification Service**  
CSA Group  
Unit 6, Hawarden Industrial Park  
Hawarden, Deeside, CH5 3US  
United Kingdom



# FIRE RATED ENCLOSURES

- E30  
E60  
E90
- CI 'C'  
CI 'W'  
CI 'Z'
- IP  
05/66



**AFITI**  
LICOF



**TÜVRheinland**<sup>®</sup>  
Precisely Right.



## Raychem RPG's Offering



Intrinsic fire resistance in accordance with DIN 4102 part 12 (German standard) in combination with function-retaining cables and BS 6387:2013

Cable junction box for tunnel application for conductor cross-sections up to 10 mm<sup>2</sup>

Material: sheet steel, powder-coated

Colour: orange, RAL 2003 (Other on request)

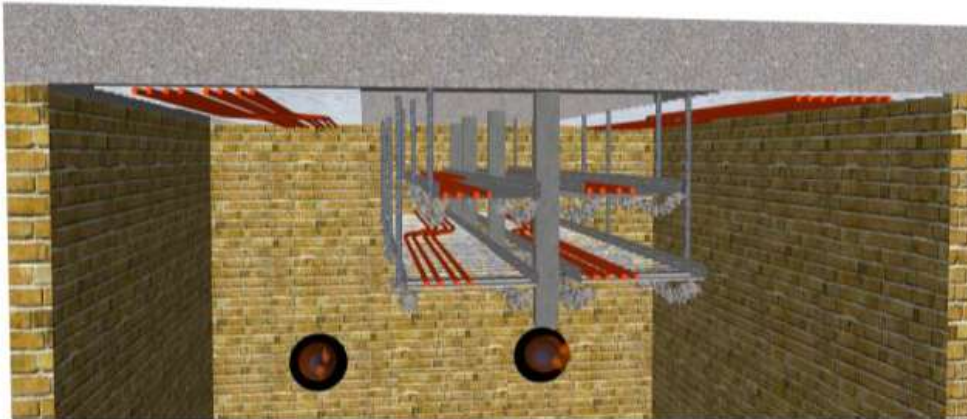
Resistance to impact: IK 10 (20 Joule)

Degree of protection: IP 65/66

**E30**  
**E60**  
**E90**

**CI 'C'**  
**CI 'W'**  
**CI 'Z'**

**Test in Furnace**  
(system test DIN 4102-12)



Sample characteristics

• Minimum length : 4 m

Test characteristics

- Fire temperature : from ambient to > 1000°C ( $\Delta T = 345 \text{ Log } [8t_{\text{min}} + 1]$ )
- Bending radius : cable manufacturer
- Voltage : 400V
- Duration : 30 - 60 - 90 min

Requirement :

Function continuity  
≥ 30 – 60 – 90 min

$t$ min	$\vartheta - \vartheta_0$ K
0	0
5	556
10	658
15	719
30	822
60	925
90	986
120	1029
180	1090
240	1133
360	1194

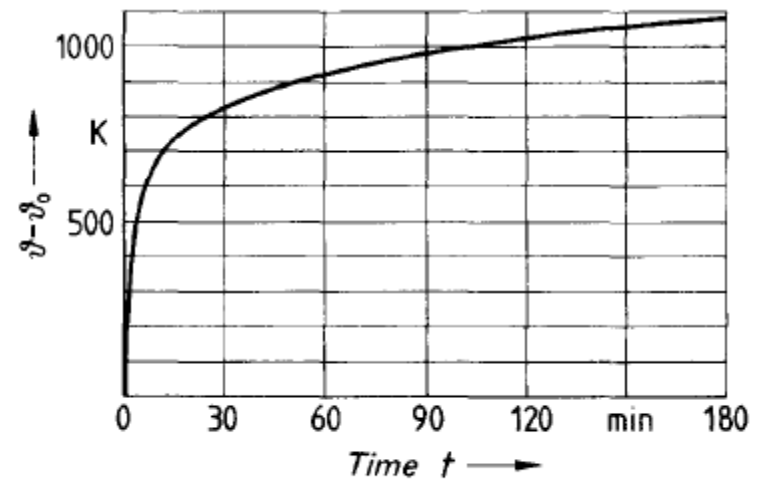
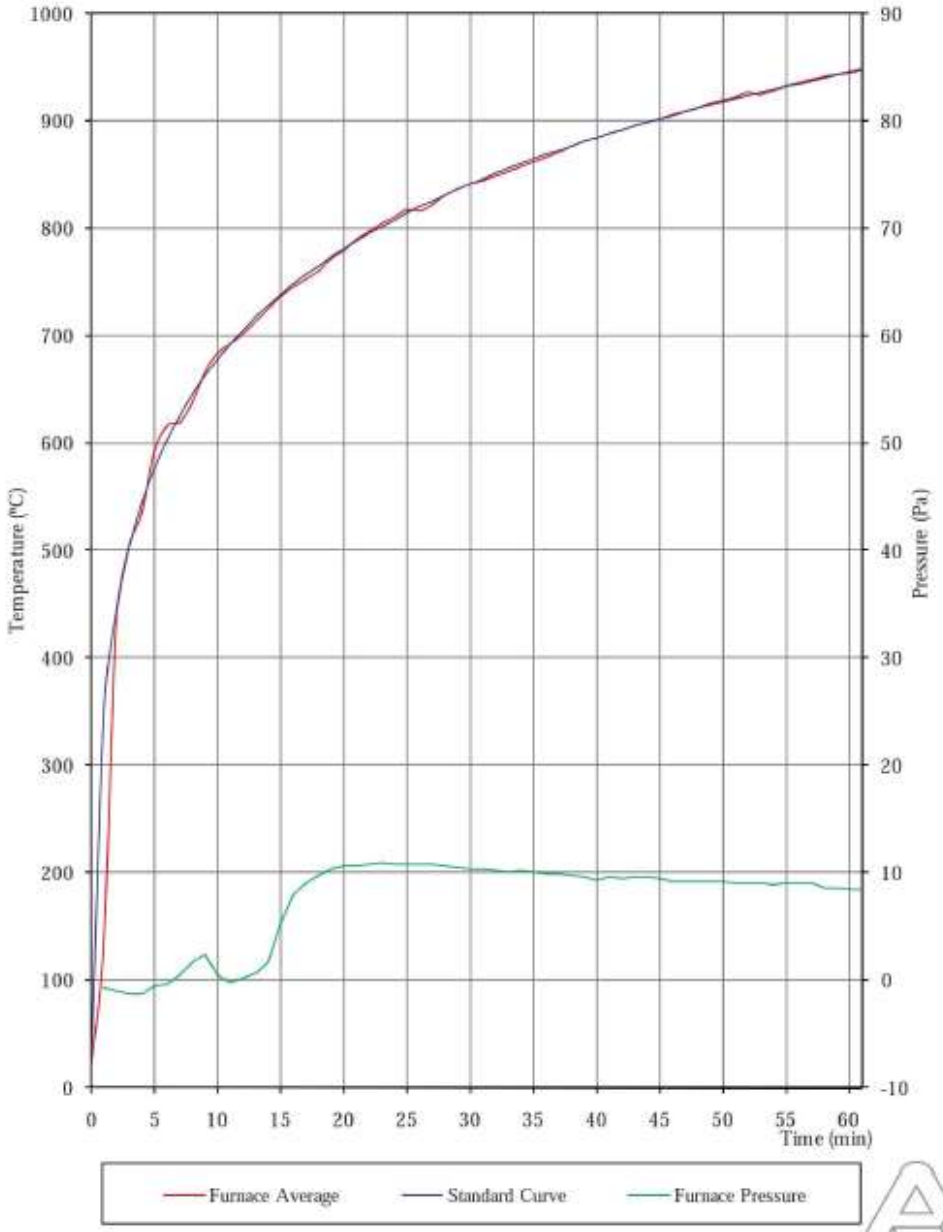


Figure 3. Standard temperature/time curve (ETK)





**Test Certificate**

Nº: 09372/17-I.R1

**Applicant:** RAYCHEM RPG (P) LTD  
1/62, Near Bharat Petrol Pump, Satalva  
VASAI ( EAST ), INDIA PIN 401208

**Building Element:** Junction box for electric cable systems required to maintain circuit integrity

**Junction box**

- Manufacturer: ..... @ RAYCHEM RPG (P) LTD
- Reference: ..... @ Fire rated Junction Box (FRJB/SE1035-A (FRJ01-FRJ06))
- Description: ..... electric box with metallic cable glands, @CONNECTWELL terminal block with 3 connectors each. The cables are insulated inside the box with mica tape and ceramic sheet.
- Dimensions (mm): ..... 150 (length) x 150 (width) x 100 (height)

**Electric cables**

- Type: ..... @ (N) HXH
- Section: ..... 3 x 4 mm<sup>2</sup> / 2 x 1,5 mm<sup>2</sup>

(@) Information issued by the applicant

**Test/s:** DIN 4102-12:1998: Fire behaviour of building materials and elements, Part 12: Fire resistance of electrical cable systems required to maintain circuit integrity - Requirements and testing, § 7.3.3.5

**Test Date:** 21<sup>st</sup> Apr -2017

**Certificate for the reports:** Test report n° 9372/17.R1 (issued by AFITI-LICOF on 26<sup>th</sup> Apr -17)

Results	Performance criteria	Results
	Integrity of the circuit (E)	90 minutes
	<b>Fire Resistance Classification</b>	<b>E 90</b>

Classification taking as reference what is stated in § 3.2.2. of the standard DIN 4102-12:1998

Arganda del Rey, 5<sup>th</sup> of May of 2017

The Developer: \_\_\_\_\_ The Supervisor: \_\_\_\_\_

Signed: Sergio Noguera Perona  
Technician  
Fire Resistance Laboratory

Signed: Magdalena Villegas Baranco  
Technical Director  
Fire Resistance Laboratory

The Test Certificate no. 09372/17-I.R1 supersedes the Test Certificate no. 09372/17-I.

The results of this Certificate refer solely and exclusively to the specimens tested, and not to the product in general. The specified reports include important aspects of the test performance and development which have made it possible to obtain the above-mentioned fire resistance classification. This certificate should be used together with the referenced reports.

Cancellation or modification of the above-mentioned reports implies cancellation or modification of this certificate.

2 Sizes tested 150X150X100 mm & 350X250X105 mm and Qualified for **E90** Rating.  
*i.e. Electrical continuity for 90 Minutes.*

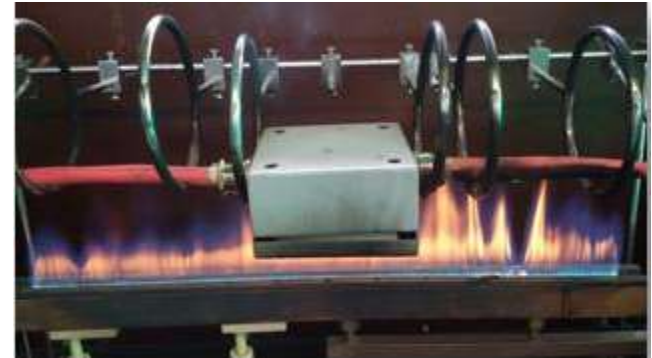


## BS6387:2013 Fire Test - 3

### Separate Tests

#### 1. Fire alone: Category C

- Flame at **950°C (1742°F)** for **180 Minutes**, cables powered with **240 VAC**.



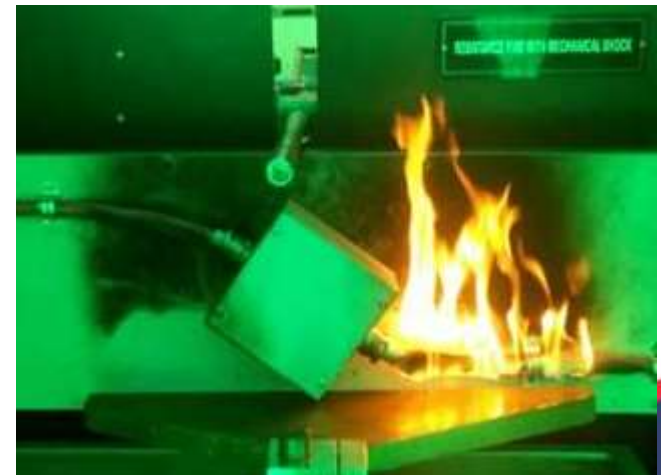
#### 2. Fire with Water: Category W

- Flame at **650°C(1202°F)** for **15 minutes** then flame and water spray for **15 minutes**, Cables powered with **240 VAC**.



#### 3. Fire with Mechanical shock: Category Z

- Flame at **950°C (1742°F)** with mechanical shock applied at **30 Sec** intervals for **15minutes**. Cables powered with **240 VAC**.



Produkte  
Products

<b>Prüfbericht - Nr.: 19616371 001</b> <i>Test Report No.:</i>		Seite 1 von 08 <i>Page 1 of 08</i>	
<b>Auftraggeber:</b> <i>Client:</i>		Raychem RPG (P) Ltd International Business Division 1/62, M.G. Road, Near Bharat Petrol Pump, Post Satival, Vasai (E), Thane 401208 India	
<b>Gegenstand der Prüfung:</b> <i>Test item:</i>		Fire Rated enclosures (Junction Box) FRJB Series fitted with cables and Ceramic Terminal Blocks on both sides.	
<b>Bezeichnung:</b> <i>Identification:</i>		<b>Serien-Nr.:</b> <i>Serial No.:</i>	Engineering Sample
<b>Wareneingangs-Nr.:</b> <i>Receipt No.:</i>		<b>Eingangsdatum:</b> <i>Date of receipt:</i>	22.02.2017
<b>Prüfart:</b> <i>Testing location:</i>		Rajasthan Test & Research Centre Plot No.-295, Sector-7, IMT Manesar, Distt Gurgaon-122050, (Haryana) INDIA	
<b>Prüfgrundlage:</b> <i>Test specification:</i>		BS 6387:2013*	
<b>Prüfergebnis:</b> <i>Test Result:</i>		Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). <i>The test item passed the test specifications(s).</i>	
<b>Prüflaboratorium:</b> <i>Testing Laboratory:</i>		TÜV Rheinland (India) Pvt. Ltd. 82/A, West Wing, 3rd Main Road, Electronics City Phase 1, Bangalore – 560 100	
<b>geprüft/ tested by:</b>		<b>kontrolliert/ reviewed by:</b>	
18/04/2017	Shridhar Mahalingapur/ Engineer	18/04/2017	Mahesh Kumar Datta/ Asst. General Manager
<i>Date</i>	<i>Name/Position</i>	<i>Date</i>	<i>Name/Position</i>
<i>Signature</i>	<i>Signature</i>	<i>Signature</i>	<i>Signature</i>
<b>Sonstiges/ Other Aspects:</b>			
Note:-* Two main tests for Circuit Integrity (Resistance to fire alone) are BS 6387:2013 and IEC 60331-21-1989. The temperature of the flame in BS 6387 - 2013 is 950±40°C & in IEC 60331-21:1989 is 750±50°C Test with BS 6387:2013 is more stringent and it is the latest method.			
<b>Abkürzungen:</b>	P/yes = entspricht Prüfgrundlage P/no = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet	<b>Abbreviations:</b>	P/yes = passed P/no = failed N/A = not applicable N/T = not tested
<small>Dieser Prüfbericht bezieht sich nur auf die e.g. Prüfverfahren und darf ohne Genehmigung der Prüfstelle nicht ausgenommen vervielfältigt werden. Dieser Bericht bezieht sich nicht auf Verwendung. This test report refers to the e.g. test samples. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety work on this or similar products.</small>			

- Certificate with FRJB Series.
- Passed for Cat. C, Cat. W and Cat. Z, with Ceramic Terminal Blocks

- Applications



**Hospitals**



**Underground  
Railways**



**Commercial Buildings**



**Chemicals Industry**



**Hotels**



**Airports**



India's Best Companies  
To Work For 2017  
THE ECONOMIC TIMES

**Raychem RPG**

THANK YOU



( A TE-Connectivity - RPG Enterprises JV )