

**Manufacturer:**  
PRYSMIAN GROUP

**Issue :** 1  
**Valid From :** 31-01-2016  
**Review Date:** 31-01-2021

## COLD POUR RESIN JOINT KITS FOR USE WITH ALUMINIUM TO ALUMINIUM AND ALUMINIUM TO COPPER UNARMoured SIGNALLING POWER DISTRIBUTION CABLE

### Product Description

Enhanced non-toxic cold pour resin joint kits for connecting unarmoured aluminium signalling power distribution cable in accordance with NR/L2/SIGELP/27423 *Product Specification for Connectors and Joints for Signalling Power Cables*.

Products can also be used in connecting unarmoured aluminium signalling power distribution cable to unarmoured copper signalling power distribution cable when terminating into Apparatus Housings.

Installation accessories for use in assembling these Joint Kits and the range of connectors within them consist of hydraulic crimping tools, die sets and pre-rounding die sets that are specific to the connectors used within these Joint Kits.

### Product Image



### Scope of Acceptance

#### Full Acceptance

Product Certified Cold Pour Resin Joint Kits shall be manufactured in compliance with NR/L2/SIGELP/27423 *Product Specification for Connectors and Joints for Signalling Power Cables*.

Cold Pour Resin Joint Kits shall be installed, tested and maintained in accordance with manufacturer's instructions.

Products detailed within the configuration listings are suitable for the connection of Aluminium Unarmoured Signalling Power Distribution Cables. Suitable selection of products will allow for the connection of Aluminium Unarmoured Signalling Power Distribution Cables to Copper Unarmoured Signalling Power Distribution Cables when terminating into approved apparatus housings.

1. Selection of the appropriate Joint Kit will enable connection between same CSA 2 core Aluminium Unarmoured Cable using appropriate connections within the joint kit.
2. Selection of the appropriate Jointing Kits also enables 2 core Aluminium Unarmoured Cables to be reduced to smaller Copper Unarmoured cables to facilitate termination into apparatus housings. These joint kits use bi-metallic aluminium/copper reducer connectors.
3. Selection and use of approved and correct tooling shall be in accordance with manufacturer's instructions. Products as detailed are only to be used with the specific manufacturer's tooling listed in the product configuration.

Network Rail Acceptance Panel (NRAP) hereby authorises the product above for use and trial use on railway infrastructure for which Network Rail is the Infrastructure Manager under the ROGS regulations.  
Authorised by...

Vanessa Cumine  
Product Acceptance Coordinator

Nigel Edwards  
Head of Power Distribution (HV/LV)

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## Specific Conditions

*The following Conditions are specific to the approved product/s contained within this Certificate. These conditions must be adhered to in addition to the Network Rail General Conditions contained within the "General Terms and Conditions" section. Failure to adhere to these conditions may result in the withdrawal or suspension of Acceptance of some, or all of the items contained within the accepted configuration.*

### Manufacturer

- 1) Cold Pour Resin Joint Kits shall be manufactured in accordance with NR/L2/SIGELP/27423.
- 2) Each joint will comply with testing requirements in accordance with BS EN 50393 in relation to moisture resistance and BS EN 61238-1 to ensure connectors' performance is in accordance for Class A connector specifications.
- 3) Manufacturers shall provide, as a complete Jointing Kit, the required components to conduct jointing for feeder cables and any other cable that can be expected to be connected to it.
- 4) Manufacturers shall provide copies of Installation Manuals with all products covering installation, testing, maintenance and required tooling.
- 5) Manufacturers shall provide appropriate training in accordance with NR/L2/SIGELP/27423. Training and competency requirements shall be approved by the appropriate Network Rail department.
- 6) Manufacturers shall provide guidance to installers and maintainers for the use of correct and approved tooling. This will ensure that high resistance connections are minimised and maintains expected asset life of the products.
- 7) Cold Pour Resin Joint kits shall be tested in accordance with Manufacturer's production test and inspection schedule and certificate. Production certification testing should be in accordance with manufacturer's Standard Operating Procedures (SOP).
- 8) A Production Test and Inspection Certificate shall be supplied with each product.

### User

- 1) Jointing Kits shall be selected for the appropriate cable type and size to be connected.
- 2) Installers and maintainers shall conduct jointing and termination of cables in accordance with as provided manufacturer's installation instructions. Selection and use of approved and correct tooling shall be in accordance with manufacturer's instructions. Correct installation practices shall be maintained to prevent oxidation at the point of termination to minimise the likelihood of high resistance connections and maintain the asset life of the installation.
- 3) Installers and maintainers shall have access to training manuals/briefing notes and shall have had an appropriate level of training and briefing before using products detailed within this certificate.
- 4) Installers and maintainers shall conduct jointing and termination of cables using the appropriate PPE equipment in accordance with manufacturer's instructions and Network Rail policy.
- 5) Not to be used in subsurface environments in accordance with section 12 stations and locations.
- 6) No reworking of Aluminium connectors is permitted.
- 7) Not for use with Copper conductors **unless bi-metallic connectors** are used when jointing Al cable to Copper cable tails when Signalling Power Distribution Cable is entering an Apparatus Housing.
- 8) G10/E10 Series of Compression Crimp Heads are to be used with all Al Crimp Dies, Al Pre-Rounding Dies and Cu Crimp Hex Die sets.

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## Product Configuration

### System or Complete Assembly

#### Notes

Abbreviation	Description
Cu	Copper Conductor
Al	Aluminium Conductor
SAC	Solid Aluminium Conductor
FAC	Stranded Aluminium Conductor

### Cold Pour Resin Joint Kits (SAC)



Part No.	Description	Conductor Shape	Conductor Cross-Sectional Area (mm <sup>2</sup> )	Catalogue No.
RPJ016A2SR	2 Core SAC Al/Al Resin Joint Kit	Circular	16	054/212676
RPJ025A2SR			25	054/212677
RPJ035A2SR			35	054/212678
RPJ025A2SS		Sectoral	25	054/212679
RPJ035A2SS			35	054/212680
RPJ050A2S			50	054/212681
RPJ070A2S			70	054/212682
RPJ095A2S			95	054/212683
RPJ120A2S			120	054/212684
RPJ150A2S			150	054/212685
RPJ185A2S			185	054/212686

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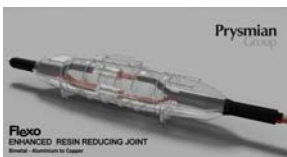
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**SAC 2 Core Al / Al Resin Joint Kit**



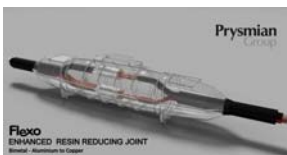
Part No.	Description	Conductor	Conductor Cross-Sectional Area (mm <sup>2</sup> )	Catalogue No.
RPJ120A2F	2 Core FAC Al/Al Resin Joint Kit	Stranded	120	054/212687
RPJ150A2F			150	054/212688
RPJ185A2F			185	054/212689

**SAC / Cu Resin Reducer Joint Kit**



Part No.	Description	Conductor Cross-Sectional Area (mm <sup>2</sup> )	Catalogue No.
RPJ0700352B2S	2 Core SAC/Cu Resin Reducer Joint Kit	70 / 35-10	054/212690
RPJ0950502B2S		95 / 50-10	054/212691
RPJ1200502B2S		120 / 50-10	054/212692
RPJ1500502B2S		150 / 50-10	054/212693
RPJ1850502B2S		185 / 50-10	054/212694

**FAC / Cu Resin Reducer Joint Kit**



Part No.	Description	Conductor Cross-Sectional Area (mm <sup>2</sup> )	Catalogue No.
RPJ1200502B2F	2 Core FAC/Cu Resin Reducer Joint Kit	120 / 50-10	054/212695
RPJ1500502B2F		150 / 50-10	054/212696
RPJ1850502B2F		185 / 50-10	054/212697

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## Reducing Inserts for SAC / Cu Resin Reducer Joint Connectors



Part No.	Description	Conductor Cross-Sectional Area (mm <sup>2</sup> )	Catalogue No.
RPJSR5010C	Cu Reducing Insert (Pack of 10)	50-10	054/212698
RPJSR5016C		50-16	054/212699
RPJSR5025C		50-25	054/212700
RPJSR5035C		50-35	054/212701

## Crimp Dies for SAC



Part No.	Description	Conductor Shape	Type	Conductor Cross-Sectional Area (mm <sup>2</sup> )	Catalogue No.
UNA4-1	Al Crimp Die for Solid	Circular	Nest	16-35	054/212702
UP25A			Indentor	16-25	054/212703
UP35A			Indentor	35	054/212704
UN25A2		Sector	Nest	25	054/212705
UP25A2					
UN35A2			Nest	35	054/212707
UP35A2					
UN50A2			Nest	50	054/212709
UP50A2					
UN70A2			Nest	70	054/212711
UP70A2					
UN95A2			Nest	95	054/212713
UP95A2					
UN120A2			Nest	120	054/212715
UP120A2					
UN150A2			Nest	150	054/212717
UP150A2					
UN185A2			Nest	185	054/212719
UP185A2					

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### Crimp Die for FAC



Part No.	Description	Conductor Cross-Sectional Area (mm <sup>2</sup> )	Catalogue No.
U120D1	Al Crimp Die Set for Stranded (Re-rounded conductor)	120	054/212721
U150D1		150	054/212722
U185D1		185	054/212723

### Pre- Rounding Die for FAC



Part No.	Description	Conductor Cross-Sectional Area (mm <sup>2</sup> )	Catalogue No.
U120PO	Al Pre-Rounding Die Set for Stranded	120	054/212724
U150PO		150	054/212725
U185PO		185	054/212726

### Hex Die Set for Cu



Part No.	Description	Catalogue No.
U50CHEX	Cu Crimp Hex Die Set for 50 – 10 sqmm Reducer	054/212727

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## Crimping Tools



Part No.	Description	Catalogue No.
G10H	G10 Compression Crimp Head (use with Hydraulic Foot Pump FP10-2)	054/212728
E10-3000	Electro-Hydraulic Crimper (Battery Operated)	054/212729
G10TS	Hydraulic Crimper (Hand Tool)	054/212730

## Crimping Tool Accessories

Part No.	Description	Catalogue No.
FP10-2	Hydraulic Foot Pump	054/212731
BX13	Electrical Conductive Abrasive Grease	054/212732
BMC35	Cable Cutting and Stripping Tool (ratchet up to 35mm)	054/212733
BMR80C	Hand Ratchet Cutter	054/212734
E10C	Hydraulic Cutting Head (use with all manual and powered Crimper Tools)	054/212735
E10CSB	Hydraulic Cutting Head Spare Blade	054/212736
UNI25+	Cable Stripping Tool (Outer Sheath Stripper for 25mm diameter cable and above)	054/212737
UNI40	Cable Stripping Tool (Outer Sheath Stripper for 19 to 40mm diameter cable)	054/212738
UNIB1	Spare Cable Stripper blades for UNI40	054/212739
UNIB2	Spare Cable Stripper blades for UNI25+	054/212740

## Crimping Accessories

Part No.	Description	Catalogue No.
HPWIPE	Cleansing Wipe Pack	054/212741
CBSTJ4	J4 Conductor Bending/Setting Tool. 16 sqmm – 70 sqmm (to create cable conductor spread clearance between the conductors within the joint)	054/212742
CBSTJ5	J5 Conductor Bending/Setting Tool. 95 sqmm – 185 sqmm (to create cable conductor spread clearance between the conductors within the joint)	054/212743
XE003402502N	Temflex™ PVC Tape	054/212744
12862002	Self-Adhesive Foam Seal	054/212745
F59300020371	Mastic Sealing Strip	054/212746
U692328	Aluminium Oxide Abrading Strip	054/212747
RPJSTM	Jointers Setting Tape Measure	054/212748
U7101-702	Mixing Gloves	054/212749

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## Assessed Documentation

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
NR App-1	Network Rail Data Pack	2	11-12-2016	1
---	Prysmian Group Compliance BS 7609	2	11-12-2016	1
---	Prysmian Group Compliance NR/L2/SIGELP/2708[2]	2	11-12-2016	1
---	Prysmian Group Compliance NR/L2/SIGELP/2723[1]	2	11-12-2016	1
---	Prysmian Group Compliance PA05/06494	2	11-12-2016	1
---	Engineering Validation & Verification Report		12-01-2016	1
BA0700352B2S	Bi-metallic Connector Reducing GA Drawing	1	11-12-2015	1
BAP120AS	Aluminium Cable Link 120mm Stranded Al GA Drawing	1		1
MRPJ4A	Enhanced Resin Joint J4 Shell, Aluminium Through Connector GA Drawing	1	09-12-2015	1
MRPJ4B	Enhanced Resin Joint J4 Shell, Bi-metallic Connector GA Drawing	1	09-12-2015	1
MRPJ5A	Enhanced Resin Joint J5 Shell, Aluminium Through Connector GA Drawing	1	09-12-2015	1
MRPJ5B	Enhanced Resin Joint J5 Shell, Bi-metallic Connector GA Drawing	1	09-12-2015	1
---	Enhanced JEM™ Resin Joint Kit Label	1	11-01-2016	1
MTBF-1	Prysmian Group Performance RAM Document		11-01-2016	1
Prysmian IPR-1	Prysmian Group IPR Statement		11-01-2016	1
PCLC897	Type Testing Circular Stranded Al Crimp Connector To BS EN 61238-1:2003 Using 150mm <sup>2</sup> Stranded Aluminium Conductor		11-01-2016	1
RPJ150	Type Approval Test for Network Rail RPJ150A2F.		11-01-2016	1
	RISQS Certificate of Verification		11-01-2016	1
ISO 9001:2008	BASEC Certificate of Conformity		11-08-2014	1
---	BASEC Certification Schedule		11-08-2014	1
---	LVD List Feb 2012			1
---	REACH Statement		Apr 2015	1
---	RoHS2 Statement		Jan 2015	1
J4	J4 Cold Pour Resin Joint Image		11-08-2014	1
J5	J5 Cold Pour Resin Joint Image		11-08-2014	1
MRPJ4A.jpg	J4 CAD Image		11-08-2014	1
MRPJ5A.jpg	J5 CAD Image		11-08-2014	1
JEM_Liquid	Material Safety Data Sheet – JEM™ Liquid Pack	1	14-02-2012	1
JEM_Powder	Material Safety Data Sheet – JEM™ Resin Powder Pack	1	14-02-2012	1
072015-1	JEM™ Resin Data Sheet	1	07-2015	1
MRPJ-U-1	Enhanced Resin Joint Kit data Sheet	1	11-01-2016	1
RPJ0952AS	Parts List	1	17-02-2016	1



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## Manuals and Training Materials

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
RPJAJI-02	Jointing Instruction – 2 Core Cold Pour Resin Joint Kit (Al/Al Trough Connectors)	2	06-01-2016	1
RPJBJI-02	Jointing Instruction – 2 Core Cold Pour Resin Joint Kit (Al/Cu Bi-Metallic Reducing Connectors)	2	06-01-2016	1

## Certificate History

Issue	Date	Issue History
1	31-01-2016	First accepted for use

## Contact Details

### Manufacturer

PRYSMIAN GROUP  
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### Sponsor

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## General Terms & Conditions

### 1) General

- 1) This certificate can only be amended by Network Rail Technology Introduction Group. Any alterations made by a different person will invalidate the entire certificate.
- 2) Failure to abide by the requirements in this Certificate of Acceptance may invalidate the certificate, thereby restricting the right to operate the product and / or limiting the future supply and deployment of the product on the infrastructure.
- 3) Upon the review date this certificate and the product it relates to is invalid and not accepted for use. Manufacturers are to make an application for a review prior to the review date.

### 2) Manufacturer

The Manufacturer shall:

- 1) Ensure that all products supplied comply with the standards defined in the Acceptance Requirements or otherwise documented as part of the assessment, including meeting the reliability requirements included in the Acceptance Requirements and in any deed of warranty for the relevant certificate number.
- 2) Notify Network Rail Technology Introduction Group:
  - a. Within 48 hours, of any deficiencies affecting the quality, functionality or safety integrity of the product (including corrective action undertaken or proposed).
  - b. Of any intended change to the accepted product; changes include:
    - i. A change to the product configuration (to the actual product or its application);
    - ii. A variation to or addition of manufacturing locations or processes;
    - iii. A change in the name or ownership of the manufacturing company;
    - iv. Any changes to the ability or intention to support with technical services, spares or repairs.
- 3) The Manufacturer shall provide Network Rail Technology Introduction Group at least 12 (twelve) months notice of its intention to discontinue supply or to provide such notice as is reasonable if such discontinuance is outside its control and will offer the opportunity of a Last Time Buy to Network Rail together with date for last order placement and supply of the parts affected. The introduction of proposed alternative products shall be communicated to the Network Rail Technology Introduction Group.
- 4) Provide further copies of operating and maintenance manuals to purchasers / users of the product as necessary (including certificates of conformance, calibration etc).
- 5) Provide further copies of training manuals and an appropriate level of training to purchasers or users of the product as necessary.
- 6) Where applicable, specialist technical support, repairs and servicing of the product shall be carried out by the Original Equipment Manufacturer (OEM) or authorised agent only.
- 7) Network Rail may request information from the manufacturer to prove product compliance with clauses 1 and 2 above and reserve the right to suspend and/or withdraw any application where information is not forthcoming within a reasonable timeframe.
- 8) In accordance with Network Rail's Quality Assurance Policy Statement 2011, where the specification and/or Product Acceptance Certificates specify quality assurance classifications (QA1 to QA5) for the products, the manufacturer shall comply with the specified level of quality assurance for each product and allow Network Rail access to carry out its quality assurance checks.
- 9) The manufacturer shall give Network Rail's representatives access at all reasonable times to its premises and allow them to inspect its quality systems and production methods and, if requested, to inspect, examine and test the products both during and after their manufacture and the materials being used in their manufacture.

### 3) Conditions of Use

Specifiers, installers, operators, maintainers, etc. using the product shall:

- 1) Comply with the certificate conditions. If a condition is not understood guidance must be sought from Network Rail Technology Introduction Group.
- 2) Check that the application of use complies with the relevant certificate's scope of acceptance.
- 3) Report any defect if it is a design or manufacturing fault likely to affect performance and/or the safe operation of the railway in writing to Network Rail Technology Introduction Group.
- 4) Inform Network Rail Technology Introduction Group in writing of a change to the product configuration (or to the actual product or its application).
- 5) Operate, maintain and service the product in accordance with Network Rail standards and Operation and Maintenance manuals as appropriate.
- 6) Be appropriately trained and authorised for the installation, maintenance and use of the product.
- 7) Only send products for repair or reconditioning to the Original Equipment Manufacturer (OEM) or authorised agent.
- 8) Users are to be aware that Product Acceptance is not a substitute for design approval.

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#### 4) Compliance

Railways and Other Guided Systems (ROGS) Regulations

1) Where the product is to be used in areas where Network Rail is not the Infrastructure Manager (e.g. leased stations), the sponsor shall additionally obtain formal consent from the Infrastructure Manager for the locality where the equipment is to be installed. This may include a requirement for additional safety verification. The decision of that Infrastructure Manager is binding, and cannot be overridden by Network Rail except by the escalation processes established in the ROGS regulations

2) As required in Railway Group Standard GE/RT8270, at each use of this product the project or group responsible for installation and commissioning shall be required to demonstrate compatibility with:

- a. All rail vehicle types that have access rights over the area affected by the change
- b. Infrastructure managed by others
- c. Neighbours.

Railway Interoperability Regulations

3) For interoperable constituents of systems the project or group responsible for installation and commissioning shall be required to demonstrate compliance with the relevant Technical Specifications for Interoperability (TSI) where appropriate.

4) An authorisation from the national safety authority (i.e. the Railway Safety Directorate of the Office of Rail Regulation) is required before the equipment is to be used in revenue earning service.

#### 5) Supply Chain Arrangements

1) Certificates of acceptance do not imply any particular quantity of supply nor any exclusivity of supply.

2) Products may be purchased by Network Rail or its agents, suppliers or contractors.

3) Manufacturers should note that it is not necessary to enter into any exclusive supply arrangements with resellers or other suppliers