## **POLYURETHANE RESIN SYSTEM PU238**



The PU238 resin system has been specifically developed for the encapsulation of electronics, light electrical applications and cable joints. The system is available in a number of formats for delivery but the acclaimed twinpack system is the preferred method of supply for the cable joint kit. The resin and supply method offers the following benefits for the specifier and end user: -

- NO WASTAGE, EACH CABLE JOINT KIT COMES WITH A
   PRE-DETERMINED PACK SIZE OR COMBINATION OF PACKS TO
   SUIT THE SIZE OF CABLE JOINT INSTALLATION BEING UNDERTAKEN.
- NO MESS EASY TO USE 'MIX IN THE BAG' SYSTEM.
- PRE-FILLED PACKS ENSURE THE CORRECT MIX RATIO EACH TIME.
- TWINPACK SYSTEM REMOVES THE OPERATOR FROM THE RAW MATERIALS DURING THE MIXING PROCESS HELPING FROM THE HEALTH AND SAFETY POINT OF VIEW.



• RESIN SYSTEM CURRENTLY UNDER TEST TO BS7888.

Global Jointing Systems
A DIVISION OF GLOBAL RESINS

### **POLYURETHANE RESIN - PU238**

This is a two part polyurethane system primarily designed for electrical encapsulation.

The resin and hardener are mixed in the ratio: 6.4:1 By weight.

| COLOUR OF MIXED SYSTEM          | Beige                             |
|---------------------------------|-----------------------------------|
| DENSITY OF RESIN                | 1.44                              |
| DENSITY OF HARDENER             | 1.23                              |
| DENSITY OF MIXED SYSTEM         | 1.41                              |
| VISCOSITY OF RESIN              | 4800 - 5000cps spindle 6 @ 25°C   |
|                                 |                                   |
| VISCOSITY OF HARDENER           | 180 - 240cps spindle 6 @ 25°C     |
| VISCOSITY OF MIXED SYSTEM       | 3000 - 3300cps spindle 6 @25°C    |
| POT LIFE                        | 15 - 20 minutes 0.5 litre @ 25°C  |
| GEL TIME                        | 20 - 25 minutes 0.5 litre @ 25°C* |
| FULL CURE                       | 48 hours @ 25°C                   |
| PEAK EXOTHERM                   | 60 - 65°C <sup>a</sup> 150g mass) |
| SHORE D HARDNESS AFTER 24 HOURS | A ventre seek officer             |
| AT ROOM TEMPERATURE             | A: 60 B: 55                       |
|                                 |                                   |

<sup>\*</sup> Gel time is very much dependent upon ambient temperature and mixing time.

| CHARACTERISTICS OF MIXED SYSTEM             |   |  |  |  |  |  |  |  |  |  |
|---|---|--|--|--|--|--|--|--|--|--|
| TEAR STRENGTH                               | 10 N/mm <sup>2</sup>                            |  |  |  |  |  |  |  |  |  |
| TENSILE STRENGTH                            | 12 N/mm <sup>2</sup>                            |  |  |  |  |  |  |  |  |  |
| ultimate elongation                         | 3%  |  |  |  |  |  |  |  |  |  |
| VOLUME RESISTIVITY                          | 10 <sup>10</sup> Ohms mm                        |  |  |  |  |  |  |  |  |  |
| SURFACE RESISTIVITY                         | 10 <sup>10</sup> Ohms mm                        |  |  |  |  |  |  |  |  |  |
| THERMAL CONDUCTIVITY                        | 0.9W/(m°C)                                      |  |  |  |  |  |  |  |  |  |
| MAXIMUM CONTINUOUS<br>OPERATING TEMPERATURE | 80°C  |  |  |  |  |  |  |  |  |  |
| DIELECTRIC STRENGTH                         | 10KV/mm   |  |  |  |  |  |  |  |  |  |
| WATER ABSORBTION RATE                       | 10mg @ 25°C, 24 hours<br>1000mg @ 50°C, 42 days |  |  |  |  |  |  |  |  |  |
| ADHESIVE STRENGTH TO PVC                    | 4 N/mm <sup>2</sup>                             |  |  |  |  |  |  |  |  |  |
| ADHESIVE STRENGTH TO XLPE                   | 2 N/mm²   |  |  |  |  |  |  |  |  |  |
| ADHESIVE STRENGTH TO LEAD                   | 10 N/mm <sup>2</sup>                            |  |  |  |  |  |  |  |  |  |
| ADHESIVE STRENGTH TO ALUMINIUM              | 11 N/mm²  |  |  |  |  |  |  |  |  |  |
| ADHESIVE STRENGTH TO COPPER                 | 11 N/mm <sup>2</sup>                            |  |  |  |  |  |  |  |  |  |

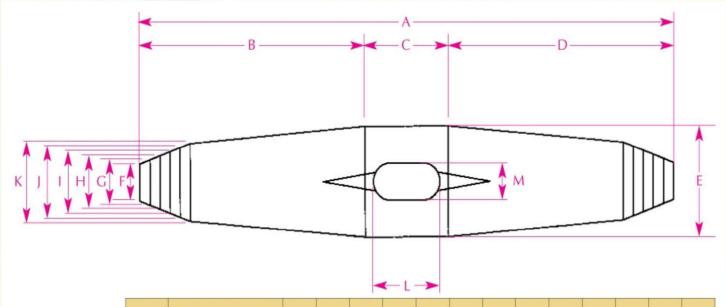
#### **CLEANING EQUIPMENT**

All equipment should be cleaned before the compound has hardened.



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### **STRAIGHT JOINTS**



# KEY FOR JOINT DIMENSIONS

ALL DIMENSIONS ARE INTERNAL. ALL MEASUREMENTS IN MILLIMETRES.

| Joint | Resin Packs used    | Α    | В    | С   | D    | Е   | F  | G  | Н  | I  | J  | K   | L  | М  |
|-------|---------------------|------|------|-----|------|-----|----|----|----|----|----|-----|----|----|
| S4    | RP0 (1 pack)        | 160  | 67.5 | 25  | 67.5 | 30  | 10 | 12 | 14 | 16 | 19 | 21  | 20 | 10 |
| S10   | RP1 (1 pack)        | 210  | 100  | 50  | 60   | 38  | 10 | 14 | 18 | 22 | 26 | 30  | 30 | 15 |
| S16   | RP2 (1 pack)        | 225  | 83   | 45  | 96   | 48  | 10 | 16 | 20 | 25 | 29 | 33  | 30 | 15 |
| S25   | RP3 (1 pack)        | 310  | 101  | 49  | 160  | 52  | 17 | 21 | 25 | 30 | 31 | 38  | 30 | 15 |
| S50   | RP4 (1 pack)        | 370  | 110  | 60  | 200  | 66  | 20 | 23 | 26 | 30 | 33 | 36  | 40 | 20 |
| S120  | RP5 (1 pack)        | 600  | 154  | 86  | 360  | 79  | 30 | 35 | 38 | 42 | 46 | 49  | 40 | 20 |
| S240  | RP6/RP4 (2/1 packs) | 780  | 225  | 120 | 435  | 125 | 48 | 50 | 58 | 65 | 71 | 79  | 40 | 30 |
| S400  | RP6 (6 packs)       | 1240 | 255  | 300 | 685  | 157 | 55 | 67 | 79 | 91 | 91 | 103 | 60 | 40 |

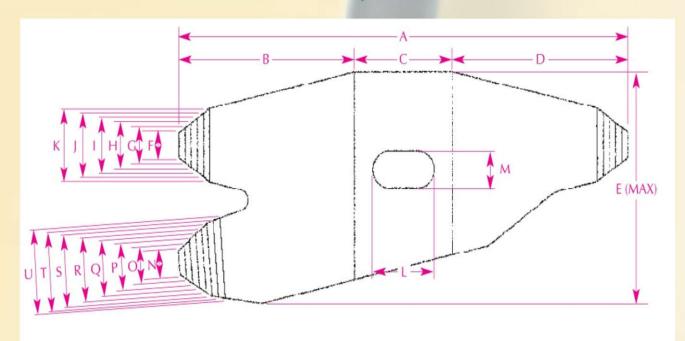
#### KIT SELECTION CHART FOR LV STRAIGHT JOINTS - ARMOURED CABLES

| Cable Size (mm) | 1.5 | 2.5 | 4 | 6 | 10 | 16 | 25 | 35 | 50 | 70 | 95 | 120 | 150 | 185 | 240 | 300 | 400 |
|-----------------|-----|-----|---|---|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|
| Kit Number      |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S4              |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S10             |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S16             |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S25             |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S50             |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S120            |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S240            |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S400            |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |

#### KIT SELECTION CHART FOR LV STRAIGHT JOINTS - UNARMOURED CABLES

| Cable Size (mm) | 1.5 | 2.5 | 4 | 6 | 10 | 16 | 25 | 35 | 50 | 70 | 95 | 120 | 150 | 185 | 240 | 300 | 400 |
|-----------------|-----|-----|---|---|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|
| Kit Number      |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S4              |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S10             |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S16             |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S25             |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S50             |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S120            |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S240            |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |
| S400            |     |     |   |   |    |    |    |    |    |    |    |     |     |     |     |     |     |

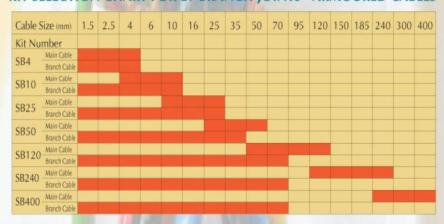
### **BRANCH JOINTS**



#### KEY FOR JOINT DIMENSIONS ALL DIMENSIONS ARE INTERNAL. ALL MEASUREMENTS IN MILLIMETRES.

| Joint | Resin Packs used | A   | В   | С   | D   | Е   | F  | G  | Н  | Τ  | J   | K   | L  | М  | N  | 0  | Р  | Q  | R  | S  | Т  | U  |
|-------|------------------|-----|-----|-----|-----|-----|----|----|----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|
| B4    | RP1 (1 pack)     | 190 | 79  | 34  | 79  | 62  | 5  | 8  | 11 | 14 | 18  | 21  | 20 | 10 | 5  | 8  | 11 | 14 | 18 | 21 |    |    |
| B10   | RP3 (1 pack)     | 220 | 86  | 48  | 86  | 95  | 10 | 14 | 18 | 22 | 26  | 30  | 30 | 15 | 10 | 14 | 18 | 22 | 26 | 30 |    |    |
| B25   | RP4 (1 pack)     | 270 | 105 | 60  | 105 | 112 | 17 | 21 | 25 | 30 | 33  | 38  | 30 | 15 | 17 | 21 | 25 | 30 | 33 | 38 |    |    |
| B50   | RP5 (1 pack)     | 340 | 120 | 100 | 120 | 120 | 20 | 23 | 26 | 30 | 33  | 36  | 35 | 17 | 20 | 23 | 26 | 32 | 36 | 40 |    |    |
| B120  | RP6 (1 pack)     | 400 | 150 | 100 | 150 | 140 | 30 | 35 | 40 | 42 | 48  | 50  | 40 | 20 | 20 | 23 | 27 | 30 | 33 | 36 | 38 | 40 |
| B240  | RP6 (2 packs)    | 500 | 189 | 125 | 186 | 179 | 50 | 58 | 65 | 71 | 79  | 48  | 40 | 30 | 20 | 23 | 27 | 30 | 33 | 36 | 38 | 40 |
| B400  | RP6 (4 packs)    | 650 | 245 | 162 | 243 | 213 | 55 | 67 | 79 | 91 | 103 | 115 | 60 | 32 | 20 | 23 | 27 | 30 | 33 | 36 | 38 | 40 |

#### KIT SELECTION CHART FOR LV BRANCH JOINTS - ARMOURED CABLES



#### KIT SELECTION CHART FOR LV BRANCH JOINTS - UNARMOURED CABLES

