TECHNICAL DATA

# Geocel® 945

## High Modulus Elastometric Construction Sealant & Adhesive


**Geocel®945** is a one part high modulus MS Polymer based Sealant and adhesive for building and civil engineering structures.

- Fast cure
- Abrasion resistant including foot traffic
- Resistant to aerobic and anaerobic bacteriological attack
- Excellent application characteristics
- High strength adhesive bond
- Permanently flexible

### PRINCIPAL APPLICATIONS

For sealing movement joints to:

- Building sub structures
- Culvert and bridge assemblies
- Concrete road soak away channels
- Concrete floor slabs (Saw cuts)
- Internal stone flooring
- Sealing of stadia terrace movement joints
- Sea defence wall movement joints
- Promenade construction and movement joints
- **Geocel®945** has excellent adhesion to many EPDM membranes. Due to the wide variety of EPDM membranes available, it is recommended to undertake compatibility and adhesion testing to ensure suitability.

| SPECIFICATIONS |
|---|
| ISO11600 F 20HM |
| ASTM C1248 for non staining |
| Manufactured under ISO 9001 |
| **Geocel®945** meets the requirements of Emicode EC1+ for VOC emissions |

### DESIGN IMPLICATIONS

**Geocel®945** has a movement accommodation factor (MAF) of 40%. The sealant can be applied into joints 6mm to 40mm wide and a depth of 6mm to 15mm. Generally the joint slot should be designed to ensure that the sealant width to depth ratio is between 11/2 :1 and 2:1.

Where joints are subjected to traffic a width to depth ratio of 1:1 should be adopted. For joints with high casting and setting out tolerances, the joint depth should be a minimum of 10mm with accurately formed joints in metal, a minimum 6mm.

To calculate the theoretical minimum joint width knowing the expected maximum working movement of the joint:

$$W = \frac{M}{MAF/100} + M$$

W = Joint width

M = Expected maximum working movement of joint

MAF = Movement Accommodation Factor of that sealant

## TECHNICAL DATA

| | |
|---|---|
| **Form** | Smooth void free viscous paste |
| **Storage Life** | Stored below 25°C, in original containers<br>290ml cartridges -12 months<br>600ml sausages -12 months |
| **Solids Content** | 100% |
| **Colour** | Grey, White, Black, Concrete Grey, Buff |
| **Application Temperature** | 5°C to 40°C |
| **Service Temperature** | -40°C to 120°C |
| **Skin Time** | 30 to 60 minutes at 23°C<br>and 50% relative humidity |
| **Cure Time** | 3mm per 24 hours at 23°C<br>and 50% relative humidity |
| **Hardness** | 40 - 45 Shore A |
| **Movement Accommodation Factor** | 40% |
| **Chemical Resistant To Spillage Of** | Dilute acids<br>Petrol<br>Dilute alkalis<br>Diesel oil<br>Mineral oils<br>Paraffin & White Spirit |

**Specification writers:** These values are not intended for use in preparing specifications. Please contact your local **Geocel® Sales Representative** prior to writing specifications on this product.

## SURFACE PREPARATION

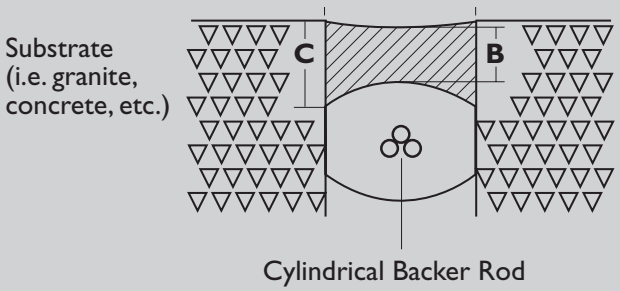
The sealing slot should be accurately formed. The slot sides should be cleaned by grit blasting, grinding, wire brushing or other means to expose a sound surface. Care should be taken to ensure that the slot is formed to the required depth and any expansion joint filler tightly packed. A tight fitting cord or bond breaker should be inserted at the base of the slot to ensure that the sealant only bonds to the joint sides.

For optimum adhesion, ensure that all surfaces are clean, dry, sound and free from frost. Clean all joints of release agents, water repellents, laitance, dust, dirt, old sealants or other contaminants, which could impair adhesion. Surfaces may be damp, but have no standing water.

All surfaces should be cleaned and degreased by wiping with a suitable preparatory solvent available from **Geocel®**.

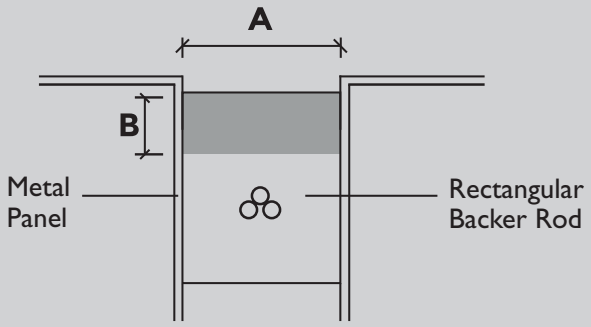
## JOINT DESIGN

### Expansion Joint




**Dimension A** - Joint Width
**Dimension B** - Sealant Depth (over backer rod)
**Dimension C** - Sealant Contact or Bond Surface

### Panel Joint




**Dimension A** - Joint Width
**Dimension B** - Sealant Depth and Bond Surface

## PRIMING

**Geocel®945** exhibits good primerless adhesion to most common construction substrates. However, due to the natural variability of porous materials, such concrete and natural stones, in order to confirm optimum adhesion, we recommend carrying out an adhesion test prior to commencement of any project. Priming is essential for water retaining structure applications. Please refer to **Geocel®** Technical Service for specific advice.

## MASKING

Where necessary the joint edges can be masked with tape to prevent contamination of adjacent substrates and ensure a neat sealant line. The tape should be carefully removed immediately after tooling.

## APPLICATION

Cut conical tip off cartridge end, screw on nozzle cut at 45° to required size and place into a Cox Powerflow CARTRIDGE Gun, firmly extrude into slot or against the substrate. Place aluminium sausage into a Cox Powerflow COMBI Gun and remove clasp, cut nozzle at 45° to required size, firmly extrude into slot ensuring complete contact with joint faces.

## FINISHING

The sealant should be firmly tooled shortly after application to ensure good contact with joint substrates.

## CLEANING

Excess sealant, tools and equipment can be cleaned using **Geocel® Surface Cleaner.** Remove **Geocel®945** from hands using **Geocel® Universal Wipes**.

## PAINTING

**Geocel®945** may be overpainted with water based paints, however due to the large number of coatings available, it is advisable to carry out a compatibility test before application. For alkyd paints a suitable water based undercoat must be used.

| PAINT TYPE | SUSTAINABILITY |
|---|---|
| Water based emulsion paint | OK |
| Water based primer sealerstaining | OK<br>If over coating with other paints check suitability |
| Water based undercoat | OK |
| Water based top coat | OK |
| Alkyd resin based paint | Use water based undercoat first |
| Traditional solvent based undercoat | Use water based undercoat first |
| Traditional oil based paint | Use water based undercoat first |
| Traditional exterior gloss paint | Use water based undercoat first |
| Cellulose based automotive paint | OK |
| Polyurethane based automotive paint | OK |

## PACKAGING

**Geocel®945** is supplied in 290ml cartridges packed in boxes of 12 and 600ml sausages packed in boxes of 10.

## ANCILLARY MATERIALS & EQUIPMENT

**Cox Powerflow COMBI**
**Cox Powerflow CARTRIDGE**
**Geocel® Universal Wipes**
**Geocel® Surface Cleaner**

## HEALTH AND SAFETY

Health and Safety data sheets available on request.

## TECHNICAL SERVICE

**Important Note:** The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that Geocel's products are safe, effective and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Geocel's sole warranty is that the product will meet the Geocel sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. Geocel specifically disclaims any other express or implied warranty of fitness for a particular purpose or merchantability. Geocel disclaims liability for any incidental or consequential damages.

## GEOCEL SEALANT QUANTITY ESTIMATOR

| **Width** (mm) | **6** | **8** | **10** | **12** | **15** | **18** | **20** | **25** |
|---|---|---|---|---|---|---|---|---|
| **Depth** (mm) | | | | | | | | |
| **6** | 8.0 | 6.0 | 4.8 | 4.0 | 3.2 | 2.6 | 2.4 | 1.9 |
| **8** | 6.0 | 4.5 | 3.6 | 3.0 | 2.4 | 2.0 | 1.8 | 1.4 |
| **10** | 4.8 | 3.6 | 2.9 | 2.4 | 1.9 | 1.6 | 1.4 | 1.1 |
| **12** | 4.0 | 3.0 | 2.4 | 2.0 | 1.6 | 1.3 | 1.2 | 0.9 |
| **15** | 3.2 | 2.4 | 1.9 | 1.6 | 1.2 | 1.0 | 0.9 | 0.7 |
| **18** | 2.6 | 2.0 | 1.6 | 1.3 | 1.0 | 0.9 | 0.8 | 0.6 |

METRES PER 290ml CARTRIDGE *
*The above figures do not allow for wastage or variation in joint size

| **Width** (mm) | **6** | **8** | **10** | **12** | **15** | **18** | **20** | **25** |
|---|---|---|---|---|---|---|---|---|
| **Depth** (mm) | | | | | | | | |
| **6** | 16.6 | 12.5 | 10.0 | 8.3 | 6.6 | 5.5 | 5.0 | 4.0 |
| **8** | 12.5 | 9.3 | 7.5 | 6.2 | 5.0 | 4.1 | 3.7 | 3.0 |
| **10** | 10.0 | 7.5 | 6.0 | 5.0 | 4.0 | 3.3 | 3.0 | 2.4 |
| **12** | 8.3 | 6.2 | 5.0 | 4.1 | 3.3 | 2.7 | 2.5 | 2.0 |
| **15** | 6.6 | 5.0 | 4.0 | 3.3 | 2.6 | 2.2 | 2.0 | 1.6 |
| **18** | 5.5 | 4.1 | 3.3 | 2.7 | 2.2 | 1.8 | 1.6 | 1.3 |

METRES PER 600ml SAUSAGE PACK *
*The above figures do not allow for wastage or variation in joint size