



Technical Guidance Note

External Wall Insulation (EWI) Systems

Expansion Joints & Sealants



TECHNICAL GUIDANCE NOTE – EXTERNAL WALL INSULATION (EWI) SYSTEMS

Expansion Joints & Sealants

1. Introduction

The sizing of expansion joints and selection of backer rods and sealants for use in the weatherproofing of buildings utilising Dryvit systems and products is the responsibility of the project architect and /or engineer. Dryvit details addressing joints represent typical and /or general conditions and are presented in good faith by Tremco CPG UK Ltd but assumes no responsibility for joint design or selection of sealant.

Refer to individual product Safety Data Sheets (SDS) for further information.

2. Sealants

A typical sealant used and compatible with Dryvit products is detailed below:

Supplier ⁽¹⁾	Product name	Description
illbruck	FA880	A non-staining, silicone sealant, available in 24 colours with a MAF 50%

(1) Other suitable sealants are available from illbruck.

3. Installation

- Use trained applicators for installation of any sealant system, follow illbruck's installation instructions and only use fresh sealant materials that have arrived at the project site in their original unopened containers.
- Inspect the joint for proper design in accordance with contract documents, Tremco CPG UK Ltd. published details and illbruck's recommendations regarding width, depth, location, substrate, primer etc. Report discrepancies to the architect and correct any deficiencies prior to installation of the sealant system.
- Make sure all joints are clean and free of all foreign matter such as moisture, frost, dust, sealers, release agents, paints etc. before installation of any sealant system. Only install the sealant system when climate conditions (temperature, humidity etc.) meet the sealant manufacturer's recommendations and the Dryvit system has been allowed to adequately cure.
- Protect adjacent materials, including the Dryvit system, from damage during installation of the sealant system. Mask adjacent areas as required and apply a coat of colour co-ordinated Demandit Smooth, Color Prime or Color Prime Plus into the joint. Allow at least 24 hours to dry before application of the sealant primer. Do not return the Dryvit finish into the sealant joint.

- Apply the sealant primer, remove any primer overspill and install a bond breaker or closed cell backer rod. Note sealant primers are sometimes needed to enhance adhesion, depending on the application. Always consult with the sealant manufacturer and follow their advice and recommendations.
- If a two-part sealant has been specified, mix it in accordance with the manufacturer's instructions ensuring the sides and base of the container are thoroughly scraped during the process.
- Apply sealant with a gun using the proper nozzle and technique. Sealant should completely fill the joint cavity to backer material and be in intimate contact with the joint faces. Tool the sealant surface after application, so as to leave a neat, smooth, wrinkle and sag free surface without pockets or imbedded impurities, smears or width variations.
- Remove sealant from all soiled surfaces before it cures and protect the sealant from damage during curing.

4. Joint Design

The theoretical /minimum joint width can be calculated if the expected maximum working movement of the joint is known.

It can be seen that varying the sealant MAF influences the joint width required to accommodate the same movement.

Joint width calculation – start with the anticipated maximum joint movement:

$$W = (M / \text{MAF}\%) + M$$

W = Joint width

M = Anticipated maximum movement of joint

MAF = Movement Accommodation Factor %

In the example given below the optimum joint width is based on the anticipated maximum movement of M = 5 mm (± 2.5 mm) and a sealant movement accommodation factor MAF = 50%.

Example $(5 / 0.5) + 5 = 15$ mm wide joint.

Please note an alternative method can be used to calculate joint width. Start with the total movement calculated and use the 'Total Movement Capability' % figure (according to ISO 11600) as quoted by the manufacturer.

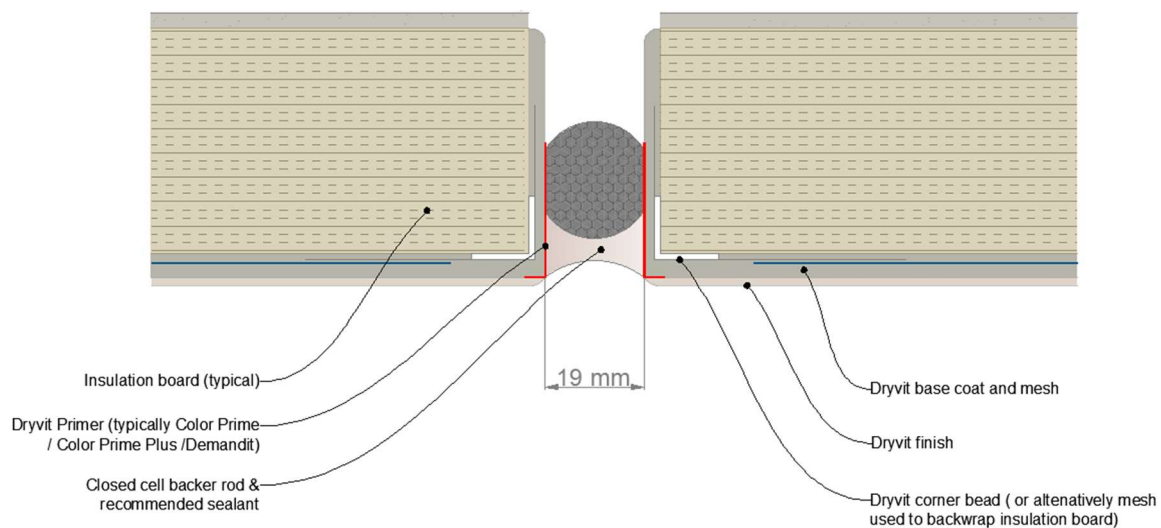
To minimise stresses imposed on the joint sealant, all movement joints should be designed to an optimum width depth ratio of 2:1.

5. Estimating sealant quantity

To calculate the sealant volume required for a given joint width (excluding wastage) the following formula can be used:

$$\frac{\text{Joint width (mm)} \times \text{joint depth (mm)}}{1000} \times \text{Joint length (m)} = \text{Litres required}$$

5. Typical sealant detail when used with Dryvit External Wall Insulation



Notes:

- Dryvit primer (Demandit Smooth /Color Prime /Color Prime Plus) will be applied into the joints prior to applying finish to the face of the wall.
- Dryvit primer will be colour matched to the finish and will be extended onto the face of the wall.
- If the sealant is recessed, the finish must be brought to the face of the sealant.
- Sealant must cover all transitions between the finish coat and Dryvit primer.

Support

Here at Tremco CPG UK Ltd, we have technical experts and field support teams who can help you – from specification to application, we're on hand.

If you're looking for more information about our render systems, please contact our team: hello@tremcocpg.com.

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Information contained in this document conforms to the standard method for the installation of illbruck (or alternative) sealants applied to Dryvit EWI Systems as of the date of publication of this document and is presented in good faith. Tremco CPG UK Ltd. assumes no liability, expressed or implied, as to the architecture, engineering or workmanship of any project. To ensure that you are using the latest, most complete information, contact Tremco CPG UK Ltd.