

Expanfill* XL*



CONSTRUCTION CHEMISTRY

High performance, cross linked, closed cell, non-absorbent, polyethylene joint filler

Uses

Expanfill* XL is a cross linked, non absorbent, semi-rigid, cellular polyethylene joint filler used for forming expansion joints in concrete, brickwork and block work. The product provides excellent support to sealants subject to hydrostatic pressure and is particularly recommended for water retaining or water excluding structures.

Expanfill* XL is a high-performance replacement for traditional sponge rubber (ASTM D1752, type 1) and cork (ASTM D1752, type 2) joint fillers.

Advantages

- Cross linked to resist lateral and hydrostatic pressure
- High density support of sealant to prevent adhesion failure
- Non absorbent closed cell structure
- High compression recovery
- Non-extruding
- Low load transfer to joint edges
- Non tainting
- Chemically resistant
- Natural bond breaker
- Rot proof

Standards compliance

Water Authorities Association, Civil Engineering Spec. for the Water Industry, 4th Edition Clause 2.124. DTp Specification for Highway Works, Dec 1991, Series 1000 clause 1015. BS 5628 Part 3

Exceeds the performance requirements of ASTM D1752-84 and AASHTO M153-92 for recovery and extrusion.

Specification

The joint filler shall be cross linked, non absorbent, semi-rigid, cellular polyethylene with a nominal density of 40 kg/m³. It shall have a recovery of 98% after 50% compression and a compressive strength of 0.15 N/mm² when tested in accordance with ASTM D3575. It shall have a water absorption of less than 0.05% by volume when tested in accordance with ASTM D3575 and be resistant to weathering and chemical attack. The joint filler is approved for use in contact with potable water.

Description

Expanfill* XL is a cross linked, semi-rigid, closed cell polyethylene sheet material used for forming or filling expansion joints between adjacent in-situ or precast components. Expanfill* XL provides excellent support backing to elastomeric sealants and is especially recommended for use in expansion joints in brickwork and in the construction of water retaining and water excluding structures.

The compression load properties of Expanfill* XL prevents the transfer of load across movement joints.

Each cell is cross linked thereby preventing breakdown under hydrostatic pressure. The closed cell formation prevents the absorption of water.

Properties

The value given below are typical figures achieved in laboratory tests. Actual values obtained on-site may show minor variations from those quoted.

Compressive strength	: 0.15 N/mm ²
Density	: 40 kg/ m ³
Extrusion	: 0.3 mm
Service temperature	: - 40 °C to +70 °C
Recovery (ASTM D3575)	: 98% after 50% compression
Water absorption (ASTM D3575)	: Less than 0.05% by volume
Weathering test	: No disintegration
Bacteria attack resistance:	Excellent
Drinking water approval	: BS6920

* These test methods are equivalent to those specified in ASTM D1752

Chemical resistance

Excellent resistance to acids, alkalis, oxidising agents and biological degradation.

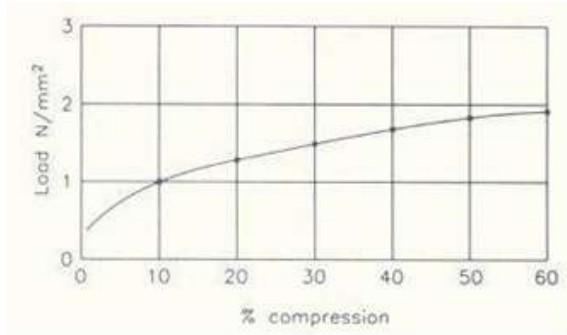
Compression loading

The load compression curve shown below gives typical compression values achieved in accordance with ASTM D3575.



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Typical load/compression curve

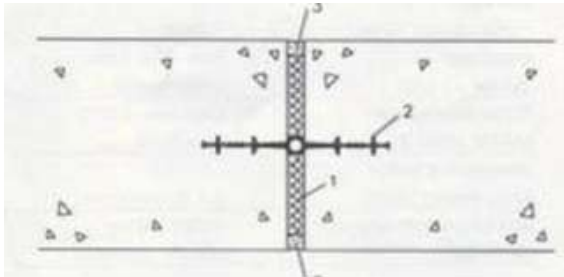


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Excellent resistance to acids, alkalis, oxidising agents and biological degradation.

Design criteria

Typical detail of a wall expansion joint occurring in a closed reservoir



- 1 Expanfill* XL
- 2 Expanbar* PVC
- 3 Expanseal* 600

Instructions for use

Joint sealing slots

When forming expansion joints with Expanfill* XL in in-situ concrete, joint sealing slots can be readily formed in the following manner.

Before installing, simply cut off a strip to the required depth. Pin the strip back on using two-inch nails at approximately 100 mm intervals. Then install the filler flush with the finished surface.

Prior to sealing the top strip can then be pulled easily from the joint to provide an uncontaminated sealing slot ready for preparation and sealing.

As elastomeric sealants will not bond to Expanfill* XL the additional need for bond breaker strips is eliminated.

Limitations

Expanfill* XL should not be used when the operational temperature is continuously outside the range of -70°C to 100°C.

Estimating

Supply

Expanfill* XL	:1000 x 2000 mm sheets
Thickness	:10mm, 15mm, 20mm & 25 mm

Storage

Expanfill* XL should be stored in a clean area and should not be left exposed to direct sunlight for long periods, especially in hot climates.

Precautions

There are no health hazards associated with Expanfill* XL in normal use.



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* Denotes the trademark registered.

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