

# Technical Data / Producer Statement



## PRODUCT DESCRIPTION

CosyWall™ insulation (CWI) is a full external wall cavity insulation system (EWCIS) for providing thermal and acoustical insulation to wall cavities lined on both sides. The system includes an assessment of building suitability, licensed installation of water-repellent glasswool insulation and durable external cladding repair.

The insulation is manufactured in selected North American plants by melting and spinning a blend of inert, natural minerals. It is the only formaldehyde free, non-combustible, water repellent, durable dry-blown insulation with a trouble free history since 2002 of insulating New Zealand external wall cavities under the brand name Qmulus BIB. CosyWall™ is packed in plastic CWI™ bags.

## APPLICATIONS

CosyWall™ is designed to provide effective thermal and acoustical insulation for:

- 1) Existing water tight external timber framed wall cavities constructed before 1990, with suitably fixed internal linings and external weatherboard, fibre cement, plywood or sealed masonry veneer claddings, or
- 2) New construction prior to internal lining - using internal netting, or

- 3) Any internal wall cavity requiring acoustical insulation.

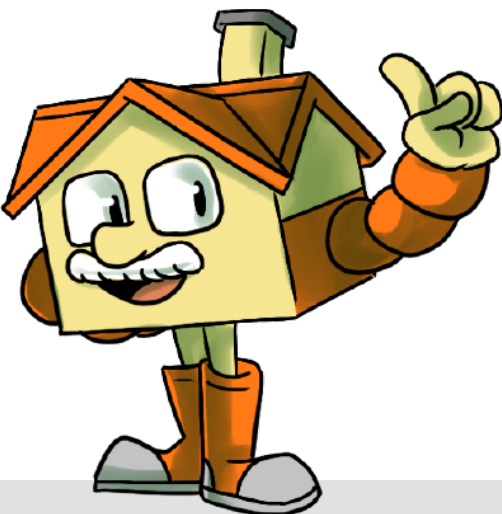
It is unsuitable for wall cavities with poorly fixed linings .

It is recommended that unsealed masonry veneer is sealed (although not necessary)

### Thermal Effectiveness (NZBC H1, AS/NZS4859.1:2002)

CosyWall™ fills all except the narrowest wall cavities (eg: frame corners), without joints, gaps or edge crushing common with batting installation. The high density dry fill process eliminates settlement and curing shrinkage away from framing timber, common with liquid foam materials. Total thermal effectiveness is guaranteed with installation of design thickness and weight.

When CosyWall™ is added to an existing or newbuild wall construction, compliance with NZ Building Code (NZBC) clauses H1.3.1 (a) and H1.3.2 is achieved via H1/AS1, clauses 2.1, 2.2 and 2.3. The minimum Total R-values R1.9 / R2.0 (depending on zone) stipulated in Tables 2 of NZS4218 and NZS 4243, are exceeded respectively with all wall cavities >75mm. Alternatively, Licensed installers can complete a design on an individual building in accordance with NZS4218 calculation method, using the table figures.



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## TABLE 1 - THERMAL RESISTANCE COSYWALL® CAVITY

- (1) Weatherboard >1950 with nogs. Deduct R0.2 if Sheet cladding.
- (2) Weatherboard <1950 510c/c, no horizontal nogs
- (3) Plastered Brick Veneer 40mm, no building paper

Total R-values assume 18% thermal bridging as per H1/AS1 & may alter in walls with more or less framing timber.

For a Total R Value of	Requires material	R Min Kg/m <sup>2</sup> wall	Min thickness
2.2 (1)	2.7	2.0	90
2.6 (2)	2.9	2.0	105
3.3 (3)	4.0	3.0	138

## INSTALLATION

Can only be undertaken Licensed Installers, following the pre assessment, insulation installation and cladding/lining reinstatement procedures detailed in the CosyWall™ manuals.



## BUILDING CODE COMPLIANCE

This designated "Design", "Construction" or "Construction without Building Consent" statement covers the use of CosyWall™ insulation material to meet or exceed NZ Building Code sections B2, E2, E3, F2, H1 requirements when used in buildings at any geographical location in accordance with this document AND alteration to specific buildings via installation of the total CosyWall™ insulation system do not alter NZBC existing building compliance relating to clauses B1, B2, C1, C3, E2, G9, H1.

Compliance with these clauses is via a mix of Acceptable and Alternative solutions, as detailed below, with evidence supporting the claims available as Appendix 1 (A1), if required.

An E2/AS1w clause 3 Risk Assessment (A1-1) is undertaken for each site prior to consent application. CosyWall™ should be BCA consent exempted on low risk buildings/sites. BCA or self-certification consent is required on higher risk work, and extreme risk buildings are excluded. Upon work completion Licensed installers must provide site records to the BCA and state the installed thickness and bags used (weight) on a card fixed inside the power box.

### Effect on existing structure (NZBC B1.3.1)

The structural performance of the framing, claddings & internal linings is not reduced by CosyWall™ EWCIS. Structural timber framing is not altered and there is no introduced or accumulated moisture to cause damage. (A1-3) The size & spacing of any holes through sheet bracing have minimal structural effect. (A1-4) CosyWall™ does not promote corrosion on metal building components.

### Durability (NZBC B2.3.1)

CosyWall™ will satisfy the requirements of NZBC clause 2.3.1(a) & B2/AS1 Table 1 of 50 years durability in lined wall cavities, as the only materials are water repellent glasswool and polyester resin cladding repair filler. Both are industry recognised as achieving 50 year durability. Vibration tests showed no settlement or shrinkage in wall cavities.

Durability of the existing structure is not reduced, as CosyWall™ EWCIS is dry applied, water repellent, non-wicking and vapour permeable. Should future leaks occur, CosyWall™ does not extend framing timber drying time sufficient to increase framing timber decay. (A1-2)

### Acoustic Effectiveness

CosyWall™ provides effective sound absorption in wall cavities. Sound transmission is estimated to improve from ~STC 36 to ~STC 39 in most 90mm framed walls.

### Fire Properties & Electrical Wiring (NZBC C1.3.2, C3.3.5, G9.3.1, G9.3.2)

CosyWall™ is non-combustible, and needs no additional treatment to prevent the spread of flame. Fire development via the "flue effect" is inhibited inside wall cavities lined with building paper or without horizontal blocking.

Clauses C1.3.2, C3.3.5 compliance aren't affected, as fire rated walls and cavities with heating equipment are avoided.

Clauses G 9.3.1, G9.3.2 compliance aren't affected, as CosyWall does not deteriorate TPS wiring, all rubber insulated wiring is avoided and other wires do not overheat within CosyWall at legal current loads. (A1-5)

### External moisture (NZBC E2)

CosyWall™ insulation EWCIS complies with clause E2 via an Alternative Solution, utilizing similar methodology of Acceptable solution E2/AS1, clause 3 site assessment Weathertightness Risk Factors.(A1-1)

CosyWall™ insulation is installed dry, does not transfer water via wicking and, if soaked, dries within 30 days.(A1-2)

The system does not affect existing building compliance with clauses E2.3.2, E2.3.5, as any cladding damage is re-insulated. CosyWall™ reduces possibility of water entering cavities and diminishes cavity condensation risk. (A1-3)

### Internal moisture (NZBC E3)

Compliance with NZ Building Code (NZBC) clauses E3.2 (a) & (c) is not required for an altered existing building, but is achieved with CosyWall™ via E3/AS1 clause 1.1.1(a). The minimum Total R-values of R1.5 stipulated in E3/AS1, are exceeded with wall cavities >65mm with sheet or other claddings of higher R-value.

### Health Effects

CosyWall™ complies with NZBC section F2.3.1, as non-hazardous materials. It is low bio-persistent, formaldehyde free mineral wool, which is odourless and does not provide food for vermin. The product does not represent a health risk to installers or occupiers of insulated buildings. Face masks and overalls should however be worn when working with all insulation or dusty drywall materials.

## TEST & DOCUMENT REVIEW:

AS/NZS4859.1:2002 #RD103266TR R&D Services (NVLAP accredited lab #200265-0) Warrington Certification, UK - EC Certificate of conformity 1121-CPD-BA0156 Guardian BP QC manual Mar 12  
Guardian MSDS Feb 12 & JM MSDS #1050 Jun 08,  
ASTM C764 & E84 Compliance tests 1900701 Guardian Technical Centre  
BBA Appraisal Certificate 08/4611  
Group Energy Consultants reports 0212-01c, 0912-01a, 0912-01b, 0912-02, 1012-01F, BV0214

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