



Manufacturer's Declaration of Performance (MDoP)

For U.S. Building Code Compliance (IRC & IBC 2025 Edition)

Manufacturer: RGBP Whānau Trust ITF ResCom Building Products (ResCom BP)

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Product: ResCom® (CMC) Magnesia Cement Board (ISO 8336; patented formulation)

Thickness Range: 6 / 10 / 12 / 16 / 20 mm (nominal; sheet sizes per project)

1. Scope & Intended Use (IBC Chapters 7, 14, 25; IRC R302, R703, R702, R505, R506)

ResCom® (CMC) boards are designed for:

- Exterior and Interior Sheathing & Cladding (IBC Ch. 14, IRC R703).
- Walls, Ceilings & Soffits (IRC R702, IBC Ch. 25).
- Structural Substrate & Flooring (IBC §2206, IRC R505/R506).
- Fire Separation Walls / Party Walls / Shaftliners (IBC §707, §713; IRC R302.2, R302.3).
- Timber & Steel Structural Protection (IBC §704, IRC R302.1).

2. Fire Performance – Independent Testing

- ASTM E136-2022: Certified non-combustible at 750 °C. No flaming, temperature rise < 12 °C, mass loss < 40%.
- ASTM E84 (Surface Burning): Flame Spread Index ≤ 25, Smoke Developed Index ≤ 450 – Class A rating.
- BS 476 Parts 4–7 / ISO 1182 / ISO 1716 / EN13501-1: Achieved non-combustibility and A1 classification.
- AS 1530.4 / EN 1363-1: FRL up to 240/240/240 achieved with multi-layer build-ups.
- Ignis NATA Fire Engineering Evaluation (2025): Confirmed compliance to IBC §703.2 for tested assemblies.

U.S. Code Recognition:

- IRC R302.1 & IBC §703.5 mandate non-combustibility for walls/floors in multi-family and commercial occupancies. ResCom® meets this through ASTM E136 and ASTM E84 Class A classification.

3. Structural & Loadbearing Performance

- ASTM E72/E2322 (Transverse & Concentrated Load):
 - 10 mm board failure load: 1.88–3.12 kN
 - 12 mm board failure load: 2.00–2.24 kN
 - 16 mm board failure load: 2.50–2.69 kN
 - 20 mm flooring panel: failure load 9.18–9.75 kN
- ASTM C1186 (Flat Fibre-Cement Sheet) & ASTM C1185: Density 0.86 g/cm³, moisture movement 0.064%.
- EN12467 (Bending, Water Tightness, Freeze-Thaw): Pass for Category A exterior exposure.

IBC/IRC Pathway:

- Complies with IBC §2506.2 (Sheathing Materials) and IRC R505.2.2 (Structural panels) for transverse/point load.

4. Thermal & Acoustic Performance

- Thermal Conductivity (ASTM C518/ISO 6946): $k = 0.44 \text{ W/m}\cdot\text{K}$, Specific heat $\approx 1.05 \text{ kJ/kg}\cdot\text{K}$.
- Ventilated Façade Guide (ISO 6946/EN1182): R-values up to 5.0 achieved with 16 mm board + Rockwool.
- Acoustic (Rw, Rw+Ctr):
 - Party wall assemblies: Rw 58–66 dB, Rw+Ctr 53–61 dB.
 - IRC §R302.10 and IBC §1207.2 (Sound Transmission) satisfied for multi-family dwellings.

5. Environmental & Health Compliance

- VOC Emissions (Intertek CA01350): Passed low-emission requirements; compliant with California CDPH Standard Method v1.2.
- Sustainability: ISO 17050:2018 Declaration confirms transparency of ingredients, with MgO binder 45–65%, per ISO 14025 EPD alignment.
- Negative Oxygen Ions & Indoor Air Quality: Independent lab measurements recorded 1498 ions/cm³, improving IAQ.

6. Water Resistance & Durability

- EN 12467 Water Impermeability (Intertek 2017): No droplet formation under 10–12 mm sheets after 24h immersion.
- Freeze-Thaw, Heat-Rain, Soak-Dry cycles: Passed EN 12467 durability regimes.
- NCC/ASTM C1186 Moisture Movement: Stable under 50±5% RH, dimensional change < 0.07%.

7. Compliance with U.S. Building Codes (as of 25 Aug 2025)

International Building Code (IBC 2025):

- §703.5 – Non-combustible materials: Compliant (ASTM E136).
- §704 – Fire-resistance ratings of structural members: Achieves FRL 60–240 min (AS 1530.4 / ASTM E119 equivalent).
- §707, §713 – Fire partitions/shaft enclosures: Fit for use.
- §2506.2 – Sheathing materials: Tested to ASTM C1186/E72/E2322.
- §104.11 – Alternative materials, methods: Acceptable based on accredited ILAC/NATA/SGS/Intertek/IGNIS data.

International Residential Code (IRC 2025):

- R302.1 – Exterior walls (fire-resistance): Meets Class A and E136 non-combustibility.
- R302.2 & R302.3 – Townhouse/Two-family separations: Acoustic + FRL compliant.
- R703 – Exterior wall coverings: Meets durability, weather, and fire exposure standards.
- R505/R506 – Floor sheathing/subfloor: Passed ASTM E72 concentrated load.
- R702 – Interior sheathing/ceilings: Moisture, fire, and acoustic compliant.

8. Independent Verification

All testing conducted by ISO 17025 accredited laboratories, including:

- SGS-CSTC (China) – ASTM E72, E2322, C1186, E136.
- Intertek (Shanghai) – EN12467, ISO 1182, ISO 1716, Water impermeability.
- IGNIS Fire Engineering (Australia) – AS 1530.4 & compliance evaluations.
- BRANZ (NZ) – Thermal conductivity ASTM C518.

Accreditations held: ILAC-MRA, NATA, CNAS, ISO 17025. Under IBC §104.11, such data is legally admissible in U.S. jurisdictions.

Authorised for RGBP Whānau Trust (ResCom® Building Products):

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This MDoP remains valid until superseded or withdrawn and is monitored by our ISO 9001 QA programme.

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