Insulfast™ T4 Insulation Fasteners

Gas Tool Consumables

Product Identifier T4IG

Product description

Insulation Fasteners for Concrete, Masonry and Steel.

Relevant building code clauses

B2 Durability — B2.3.1 (a)
E3 Internal Moisture
H1 Energy Efficiency
C3 Fire affecting areas beyond the fire source

Contributions to compliance

For B2 Durability, E3 Internal Moisture, H1 Energy Efficiency and C3 Fire affecting areas beyond the fire source; refer to the Insulfast™ T4 Insulation Fasteners TDS listed in the supporting documentation.

Scope of use

Insulfast™ T4 Insulation Fasteners for concrete, masonry and steel. White anchors are designed for masonry, concrete and hollow block substrates. Black anchors are designed for timber and steel stud substrates. For use with the Ramset™ Insulfast™ T4 Fastening Tool.

Conditions of use

Installation of Insulfast™ T4 Insulation Fasteners should be carried out by a competent professional, in accordance with the manufacturer's installation instructions, found in the T4 technical document. These fasteners should only be applied with the Ramset™ Insulfast™ T4 Fastening Tool.

Supporting documentation The following additional documentation supports the above statements:

Title (type)	Version	URL
Technical Document (Installation)	**2023**	**https://cdn.ramset.com.au/wp-content/uploads/2023/07/ramset_T4IF_TDS_InsulFastT4Fastener-2.pdf**

Contact details	
Manufacture location	Overseas
Legal and trading name of manufacturer	ITW Construction Canada*
Legal and trading name of importer	Ramset™ New Zealand
Importer address for service	29 Poland Road, Auckland, 0627, New Zealand
Importer website	ramset.co.nz
Importer email	info@ramset.co.nz
Importer phone number	0800 726 738
Importer NZBN	9429039833129

*on the basis that ITW Construction Canada partakes in the process of manufacture, involving design, quality/safety testing, importing, packaging and supplying the product in New Zealand.

Warnings and bans

This product line is not subject to any warning or ban under Section 26 of the Building Act 2004

Insulfast™ T4 Insulation Fasteners

Gas Tool Consumables

Appendix - Building code performance clauses

All relevant building code performance clauses listed in this document:
B2 Durability
B2.3.1
Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or:
(a) the life of the building, being not less than 50 years, if:
i. those building elements (including floors, walls, and fixings) provide structural stability to the building, or
ii. those building elements are difficult to access or replace, or
iii. failure of those building elements to comply with the building code would go undetected during both normal use and maintenance of the building

C3 Fire affecting areas beyond the fire source

Functional requirement			
C3.1	Buildings must be designed and constructed so that there is a low probability of injury or illness to persons not in close proximity to a fire source.		
C3.2	Buildings with a building height greater than 10 m where upper floors contain sleeping uses or other property must be designed and constructed so that there is a low probability of external vertical fire spread to upper floors in the building.	Clause C3.2 does not apply to importance level 1 buildings.	
C3.3	Buildings must be designed and constructed so that there is a low probability of fire spread to other property vertically or horizontally across a relevant boundary.		
C3.4	(a) materials used as internal surface linings in the following areas of buildings must meet the performance criteria specified below:	Clause C3.4 does not apply to detached dwellings, within household units in multi-unit dwellings, or outbuildings and ancillary buildings.	
	Area of building	**Performance determined under conditions described in ISO 9705: 1993**	
		Buildings not protected with an automatic fire sprinkler system	**Buildings protected with an automatic fire sprinkler system**
	Wall/ceiling materials in sleeping areas where care or detention is provided	Material Group Number 1-S	Material Group Number 1 or 2
	Wall/ceiling materials in exitways	Material Group Number 1-S	Material Group Number 1 or 2
	Wall/ceiling materials in all occupied spaces in importance level 4 buildings	Material Group Number 1-S	Material Group Number 1 or 2
	Internal surfaces of ducts for HVAC systems	Material Group Number 1-S	Material Group Number 1 or 2
	Ceiling materials in crowd and sleeping uses except household units and where care or detention is provided	Material Group Number 1-S or 2-S	Material Group Number 1 or 2
	Wall materials in crowd and sleeping uses except household units and where care or detention is provided	Material Group Number 1-S or 2-S	Material Group Number 1, 2, or 3
	Wall/ceiling materials in occupied spaces in all other locations in buildings, including household units	Material Group Number 1, 2, or 3	Material Group Number 1, 2, or 3
	External surfaces of ducts for HVAC systems	Material Group Number 1, 2, or 3	Material Group Number 1, 2, or 3
	Acoustic treatment and pipe insulation within airhandling plenums in sleeping uses	Material Group Number 1, 2, or 3	Material Group Number 1, 2, or 3
	(b) floor surface materials in the following areas of buildings must meet the performance criteria specified below:		
	Area of building	**Minimum critical radiant flux when tested to ISO 9239-1: 2010**	
		Buildings not protected with an automatic fire sprinkler system	**Buildings protected with an automatic fire sprinkler system**
	Sleeping areas and exitways in buildings where care or detention is provided	4.5 kW/m2	2.2 kW/m2
	Exitways in all other buildings	2.2 kW/m2	2.2 kW/m2
	Firecells accommodating more than 50 persons	2.2 kW/m2	1.2 kW/m2
	All other occupied spaces except household units	1.2 kW/m2	1.2 kW/m2
	(c) suspended flexible fabrics and membrane structures used in the construction of buildings must have properties resulting in a low probability of injury or illness to persons not in close proximity to a fire source.		

Insulfast™ T4 Insulation Fasteners

Gas Tool Consumables

C3.5	Buildings must be designed and constructed so that fire does not spread more than 3.5 m vertically from the fire source over the external cladding of multi-level buildings.	
C3.6	Buildings must be designed and constructed so that in the event of fire in the building the received radiation at the relevant boundary of the property does not exceed 30 kW/m2 and at a distance of 1 m beyond the relevant boundary of the property does not exceed 16 kW/m2.	
C3.7	External walls of buildings that are located closer than 1 m to the relevant boundary of the property on which the building stands must either:	
	(a) be constructed from materials which are not combustible building materials, or	
	(b) for buildings in importance levels 3 and 4, be constructed from materials that, when subjected to a radiant flux of 30 kW/m2, do not ignite for 30 minutes, or	
	(c) for buildings in Importance Levels 1 and 2, be constructed from materials that, when subjected to a radiant flux of 30 kW/m2, do not ignite for 15 minutes.	
C3.8	Firecells located within 15 m of a relevant boundary that are not protected by an automatic fire sprinkler system, and that contain a fire load greater than 20 TJ or that have a floor area greater than 5,000 m2 must be designed and constructed so that at the time that firefighters first apply water to the fire, the maximum radiation flux at 1.5 m above the floor is no greater than 4.5 kW/m2 and the smoke layer is not less than 2 m above the floor.	
C3.9	Buildings must be designed and constructed with regard to the likelihood and consequence of failure of any fire safety system intended to control fire spread.	
E3 – Internal Moisture		
Objective		
E3.1	The objective of this provision is to—	
	(a) safeguard people against illness, injury, or loss of amenity that could result from accumulation of internal moisture; and	
	(b) protect household units and other property from damage caused by free water from another household unit in the same building.	
Functional requirement		
E3.2	Buildings must be constructed to avoid the likelihood of—	
	(a) fungal growth or the accumulation of contaminants on linings and other building elements; and	
	(b) free water overflow penetrating to an adjoining household unit; and	
	(c) damage to building elements caused by the presence of moisture.	
Performance		
E3.3.1	An adequate combination of thermal resistance, ventilation, and space temperature must be provided to all habitable spaces, bathrooms, laundries, and other spaces where moisture may be generated or may accumulate.	Performance E3.3.1 does not apply to communal non-residential, commercial, industrial, outbuildings, or ancillary buildings.
E3.3.2	Free water from accidental overflow from sanitary fixtures or sanitary appliances must be disposed of in a way that avoids loss of amenity or damage to household units or other property.	
E3.3.3	Floor surfaces of any space containing sanitary fixtures or sanitary appliances must be impervious and easily cleaned.	
E3.3.4	Wall surfaces adjacent to sanitary fixtures or sanitary appliances must be impervious and easily cleaned.	
E3.3.5	Surfaces of building elements likely to be splashed or become contaminated in the course of the intended use of the building, must be impervious and easily cleaned.	
E3.3.6	Surfaces of building elements likely to be splashed must be constructed in a way that prevents water splash from penetrating behind linings or into concealed spaces.	

Insulfast™ T4 Insulation Fasteners

Gas Tool Consumables

H1 – Energy Efficiency		
Objective		
H1.1	The objective of this provision is to facilitate efficient use of energy.	Objective H1.1 applies only when the energy is sourced from a network utility operator or a depletable energy resource.
Functional requirement		
H1.2	Buildings must be constructed to achieve an adequate degree of energy efficiency when that energy is used for—	
	(a) modifying temperature, modifying humidity, providing ventilation, or doing all or any of those things; or	
	(b) providing hot water to and from sanitary fixtures or sanitary appliances, or both; or	
	(c) providing artificial lighting.	Requirement H1.2(a) does not apply to assembly service buildings, industrial buildings, outbuildings, or ancillary buildings.
Requirement H1.2(c) applies only to commercial buildings and communal non-residential buildings whose floor area is greater than 300 m2.		
Performance		
H1.3.1	The building envelope enclosing spaces where the temperature or humidity (or both) are modified must be constructed to—	
	(a) provide adequate thermal resistance; and	
	(b) limit uncontrollable airflow.	
H1.3.2E	Buildings must be constructed to ensure that their building performance index does not exceed 1.55.	Performance H1.3.2E applies only to housing.
H1.3.3	Account must be taken of physical conditions likely to affect energy performance of buildings, including—	
	(a) the thermal mass of building elements; and	
	(b) the building orientation and shape; and	
	(c) the airtightness of the building envelope; and	
	(d) the heat gains from services, processes and occupants; and	
	(e) the local climate; and	
	(f) heat gains from solar radiation.	
H1.3.4	Systems for the heating, storage, or distribution of hot water to and from sanitary fixtures or sanitary appliances must, having regard to the energy source used,—	
	(a) limit the energy lost in the heating process; and	
	(b) be constructed to limit heat losses from storage vessels and from distribution systems; and	
	(c) be constructed to facilitate the efficient use of hot water.	Performance H1.3.4(b) does not apply to individual storage vessels that are greater than 700 litres in capacity.

Insulfast™ T4 Insulation Fasteners

Gas Tool Consumables

Performance H1.3.4(c) applies only to housing.		
H1.3.5	Artificial lighting fixtures must—	
	(a) be located and sized to limit energy use, consistent with the intended use of space; and	
	(b) be fitted with a means to enable light intensities to be reduced, consistent with reduced activity in the space.	Performance H1.3.5 does not apply to lighting provided solely to meet the requirements of Clause F6.
H1.3.6	HVAC systems must be located, constructed, and installed to– –	
	(a) limit energy use, consistent with the intended use of space; and	
	(b) enable them to be maintained to ensure their use of energy remains limited, consistent with the intended use of space.	

For further information, please contact Ramset™
NZ - PHONE: 0800 RAMSET (726738) www.ramset.co.nz
AU - PHONE: 1300 780 063 www.ramset.com.au

Ramset™ 1 Ramset Drive, Chirnside Park, Victoria. 3116. Australia © Copyright Sept 2023. ITW Australia Pty. Ltd. ABN 63 004 235 063 trading as Ramset™

Important Disclaimer: Any engineering information or advice ("Information") provided by Ramset™ in this document is issued in accordance with a prescribed standard, published performance data or design software. It is the responsibility of the user to obtain its own independent engineering (or other) advice to assess the suitability of the Information for its own requirements. To the extent permitted by law, Ramset™ will not be liable to the recipient or any third party for any direct or indirect loss or liability arising out of, or in connection with, the Information.