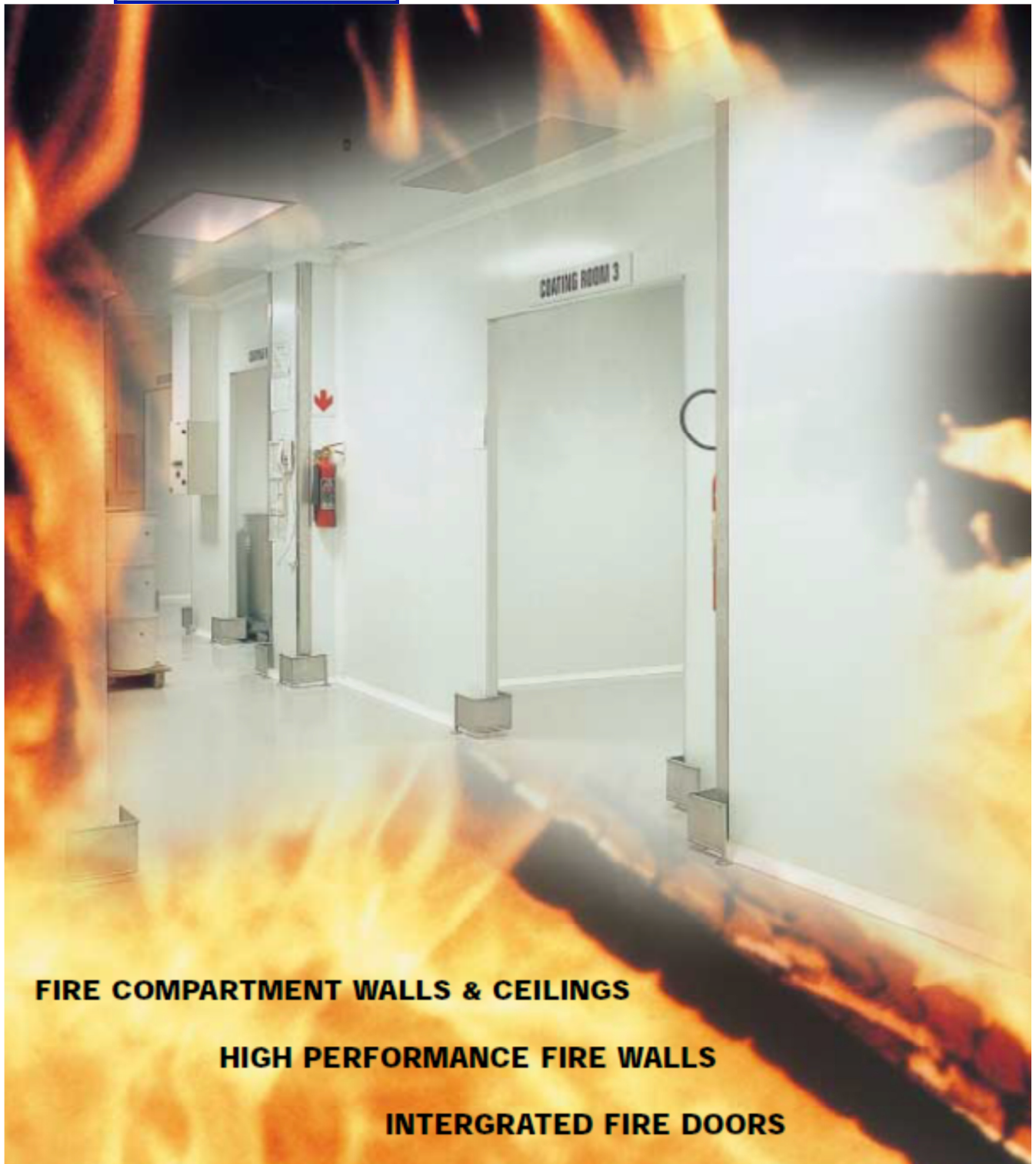




NEW FIRE CELL TECHNOLOGY



FIRE COMPARTMENT WALLS & CEILINGS

HIGH PERFORMANCE FIRE WALLS

INTERGRATED FIRE DOORS



FIRECELL

Structural Fire Resistance panels

Club Refrigeration (Club), specialists in production of long span stressed skin sandwich panels for the cold room applications, have developed a new sandwich panel using material with non-combustible and fire resistance properties.

Club laminates steel facings to thermal insulating substrates and has replaced its original polystyrene and polyurethane cores with Rockwool (Mineral Wool) to extend their product range in the following high temperature applications

- Non-combustible cubicles for clean rooms in the pharmaceutical industry
- Non-combustible partitions and ceilings for re-lining existing cold rooms
- Non-combustible spray booths in the automotive industry
- Fire rated control rooms, computer rooms, air handling units
- Fire rated compartment walls, ceilings and barriers for escape routes, service ducts and compartmentation of large non-residential buildings such as hospitals.
- High performance firewalls for division of flammable stores from different occupancies in factories and warehouses

The Club lamination system use a specially formulated adhesive to ensure the bond between Rockwool and the Chromadek , stainless steel or other steel facings. After applying the adhesives to the facings, the core is placed between them and the sandwich panel is put into a gravity press to cure for 6 hours. The mechanical strength achieved by the unique Club laminating and joining system makes it possible to create a structure with the minimum number of joints.

Main Advantages of the product:

- Pre-painted, maintenance free and washable surfaces
- Long span, vertically or horizontally jointed panels
- Thickness from 40mm to 200mm depending on required fire rating
- Rockwool core does not melt at high temperatures
- No toxic fumes or dense clouds of smoke are released during fire
- Unique jointing system eliminates the problem of thermal bridges
- Lightweight panels for applications requiring up to 180 minutes fire protection
- Dimensionally stable, not affected by moisture or high humidity
- Able to withstand wet weather during the erection program
- Notable savings on installation costs
- Lower insurance premiums

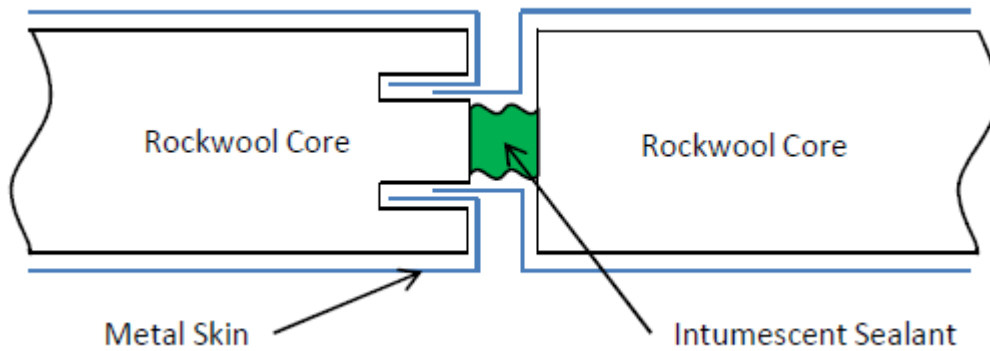
Tested to SABS 10177 Part 2-1981 Fire resistance test for building elements



Club Refrigeration

214 Frans Du Toit Street, Rosslyn, Pretoria, 0200

PO Box 17397, Pretoria North, Pretoria, 0116

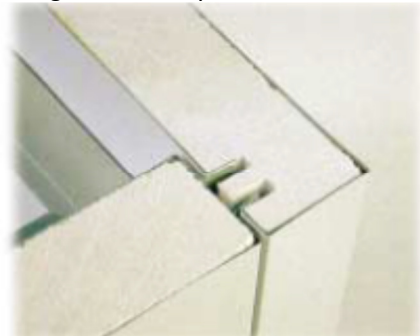
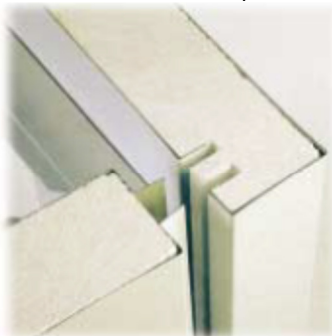


Joint Detail

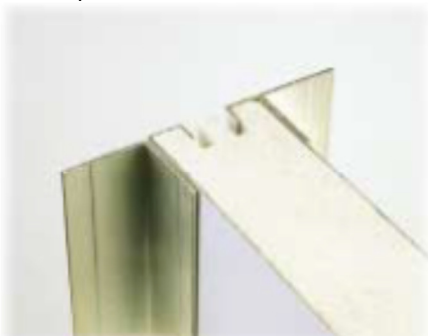
Joints: A well-tested intumescent mastic sealant is used between the push joints of the FIRECELL panels. In accordance with BS 476 part 20: 1987, the sealant is fire resistant upto 4 hours and is dedicated to fire compartment walls. Floorsa. Ceilings and around fire doors and glazing as well as gaps qround service penetrations



Top and underside view of ceiling support system detail showing 40 x 40 x 3mm L-shaped mild steel profiles screwed horizontal to the 50mm thick partition and ceiling panels with steel self-driving screws every 800mm or less



Top down view of the 50mm thick firewall corner detail showing vertically interlocking partitions



Top view of partition to wall joiting detail showing 40 x 40 x 3mm mild steel L-shaped profiles screwed vertically to the 50mm thick partition with steel self-driving screws and with anchors to the wall



Floor detail showing 50 x 50 x 20 x 3 mm U-shaped mild steel profiles screwed horizontally to concrete floor with concrete anchors every 800 mm or less

STANDARD SPECIFICATIONS FOR PREFABRIATED FIRE RATING PARTITIONS

SABS TEST EVALUATION

Composite Wall System tested in accordance with SABS 10177: Part 2-1981 as specified for non-load bearing elements

Criteria	Time of Failure-min	Failure
Stability	90+	No failure occurred
Integrity	90+	No failure occurred
Insulation	90	Thermocouple No. 2 exceeded 203°C

Fire Resistance evaluation of Wall System tested: 90 minutes

Continuity of Insulation

A continuous core of Rockwool (Mineral Wool) extends through all walls and ceiling modules

Stressed Panels

The stressed pane sandwich consists of two selected metal skins per, permanently bonded with a heat polymerising adhesive to the Rockwool core

The manufacturing environment

Panels are manufactured in an environment free of humidity, salt spray and industrial pollutants

Width of Modular Panels

1170mm modular construction

Length of Modular Panels

As per clients specifications

Panel Weight

From 18 kg/m², depending on the thickness of core

Insulation Core

Rockwool (Mineral Wool) conforms in all respects to the accepted South Africa standard for thermal insulation

Maximum Service Temperature: >1000°C

Thermal Conductivity: 0.043 W/mk

Compression Strength: 70 kPa

SABS test results

Non-combustible when tested to SABS 0177-5

Surface fire index results when tested to SABS 0177-3

Spread flame index – nil

Heat Contribution Index – nil

Smoke emission index - nil

Surface fire index – nil

Class – 1

Quality management system complies with the requirements of SABS ISO 9002

Thickness of Core

As required – from 40mm to 200mm

Types and Finishes of Panel Skins

- Galvanised Steel or Zincolume
- Galvanised Steel G275 coated with a baked polyester in an off white colour with a 30% gloss (MITTAL CHROMADEK or equal)
- Stainless Steel 304.2B
- The skins can be used in different combinations for the inside and outside finish of the panels

Panel Jointing

- All wall to wall, roof to wall, roof to roof joints are done by means of male/female insertions. The panels are then stressed and thus compressed against each other. The external joints are then sealed with a suitable sealant
- All wall panels are continuous from floor to ceiling and NO horizontal joints are made in wall panels.
- The ceiling panels are generally continuous over the shortest span of the room, The ceiling support system is dependent on the application requirement



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