TERRIX®

BUILDING AND
CONSTRUCTION FINISHES

TERRIX® SYSTEMS

Carpark Insulation System

CIS-1

Terrix® CIS-1 V1.1. G 08/2019

www.ft-terrix.com

PCC Therm UK

TERRIX® SYSTEMS

Contents:

1. System Components

The Carpark Insulation System „TERRIX® CIS-1" is designed and installed in accordance with the design and installation instructions. The SYSTEM comprises the following components, which are factory-produced by the PCC or its supplier.

	System components	Usage (kg/m²)	Thickness
Adhesive	TERRIX® AD-AU universal adhesive for mineral wool	5-6	4mm
Insualtion	PAROC CGL 20cy - mineral wool lamella with mineral primer coat.	1	as per spec.
Render coat	Mineral renderTERRIX® RD-MN (particle size: 1.0; 1.5;) mechanically applied to the mineral wool	1.8-22	1-1.5mm
Paint coat (configuration 2 only)	Polymer-silicate paint Terrix® EP-PS		

2. Intended use

TERRIX® CIS-1 system is designed for insulation of ceilings in closed and open unheated rooms, above which there are heated rooms, e.g. in garages, parking lots and basements. The system is intended for use on mineral substrates.. The ceilings are made of masonry (bricks, blocks, stones...) or concrete (cast on site or as prefabricated panels) with a reaction to fire classification A1 or A2-s2, d0 according to EN 13501-1 and a minimum density of 820 kg/m3 or A1 according to the EC decision 96/603/EC as amended.
TERRIX® CIS-1 is made of non load-bearing construction elements. It does not contribute directly to the stability of the wall on which it is installed, but it can contribute to durability by providing enhanced protection from the effect of sound proofing and fire proofing.
TERRIX® CIS-1 can be used on new or existing (retrofit) cellings. It can also be used on horizontal or inclined surfaces which are not exposed to precipitation.
TERRIX® CIS-1 is not intended to ensure the airtightness of the building structure.

3. Characteristics of the product and methods of verification

3.1 General

The identification tests and the assessment of the fitness for use of **TERRIX® ERS-2** according to the Essential Requirements were carried out in compliance with the relevant regulations.

3.2 System characteristics

3.2.1 Reaction to fire

Configuration 1	The declared organic content	Combustibility	Euroclass according to EN 13501-1
Mineral wool adhesive TERRIX® RD-LB	Max. 0.92 %	Non-combustible	A1
Lamella wool PAROC CGL 20cy	NPD	Non-combustible	
Render Coat TERRIX® RD-PS or TERRIX® RD-PS-S	Max. 0.24%	Non-combustible	

Configuration 2	The declared organic content	Combustibility	Euroclass according to EN 13501-1
Mineral wool adhesive TERRIX® AD-AU	Max. 0.92 %	Non-combustible	A1
Lamella wool PAROC CGL 20cy	NPD	Non-combustible	
Render Coat TERRIX® RD-MN-S	Max. 0.24%	Non-combustible	
Paint Coat Terrix® EP-PS	Max. 12.74%	Non-combustible	

3.2.2 Resistance to crack formation

Mineral wool adhesive TERRIX® AD-AU	lack of crack in 8mm layer
Lamella wool PAROC CGL 20cy	N/A
Render Coat TERRIX® RD-MN-S	lack of crack in 5mm layer
Paint Coat Terrix® EP-PS	N/A

3.2.3 Hygrothermal behaviour

Hydrothermal cycles have been performed on a rig.

None of the following defects occurred during the testing:
- blistering or peeling of any finishing,

TERRIX® ERS-2 System is assessed resistant to hydrothermal cycles.

3.2.4 Freeze/thaw behaviour

no damage to the outer layers: scratches, damage, loosening, cracks

3.2.5 Water vapour permeability

System	Equivalent air thickness (m)
Terrix® CIS-1 configuration 1	≤ 0.6
Terrix® CIS-1 configuration2	

3.2.6 Bond strength

Terrix® AD-AU to concrete		
Laboratory conditions	after 48 hours immersion in water and 2 hours drying (+23±2)°C, (50±5)%RH	after 48 hours immersion in water and 7 days drying (+23±2)°C, (50±5)%RH
≥0.25 MPa	≥0.3 MPa	≥0.25 MPa

Terrix® AD-AU to mineral wool
Laboratory conditions
≥0.08 MPa

Terrix® RD-MN to mineral wool	
Laboratory conditions	after freeze/thaw test
≥0.08 MPa	≥0.08 MPa

3.3 System Components' characteristics

3.3.1 Mineral wool adhesive TERRIX® AD-UL

Base binder: Portland cement;
Colour: grey;
Mixing ratio: 6.25 litres of water per 25 kg of mortar;
Application time after adding water: not less than 2 hours;
Consumption: ca. 1.0 kg/m2 per each 1 mm of the layer thickness;
Temperature of application (air and substrate): from +5°C to +25°C;
Compressive strength: ≥ 3.5N/mm^2;
Water absorption: cat W1;
Adhesion: ≥ 0.2 N/mm2;
Dry gross density of hardened mortar: ≤1150kg/m^3
Water vapour permeability coefficient μ: ≤20;
Heat conductivity coefficient: λ ≤ 057 W/m*K for P=90%,
Reaction to fire: class A1;
Packaging: Disposable paper bags containing 25 kg of product.
Storage: The product should be stored in its original sealed packaging, in a dry frost-protected room. Note: The product must be kept out of the reach of children.
Shelf life: 12 months from manufacture date specified on the packaging, provided that the storage requirements are observed. It is recommended to use the product within 6 months.

3.3.2 Insulation PAROC CGL 20cy

Dimensions

Dimensions	
Width x Length	Thickness
200 x 1200 mm	50- 200 mm
In accordance with EN 822	In accordance with EN 823

Dimensions stability		
Property	Value	According to
Dimensional Stability under Specified Temperature and Humidity Conditions, DS(70,90)	≤ 1%	EN 13162:2012 + A1:2015 (EN 1604

Packaging

Package Type
Plastic package, Plastic Packages on a Pallet or Loose Product on a Pallet

Fire Properties

Reaction to Fire		
Property	**Value**	**According to**
Reaction to Fire, Euroclass	A1	EN 13162:2012 + A1:2015 (EN 13501-1)

Continuous Glowing Combustion		
Property	**Value**	**According to**
Continuous Glowing Combustion	NDP	EN 13162:2012 + A1:2015

Other Fire Properties		
Property	**Value**	**According to**
Combustibility	Non-combustible	EN ISO 1182

Thermal Properties

Thermal Resistance		
Property	**Value**	**According to**
Thermal Resistance	See attachment	EN 13162:2012 + A1:2015
Thermal Conductivity λ_D	0.037 W/mK	EN 13162:2012 + A1:2015
Thickness Tolerance, T	T5	EN 13162:2012 + A1:2015 (EN 823)

Direct Airborne Sound Insulation Index		
Property	Value	According to
Air Flow Resistivity AF_R	NDP	EN 13162:2012 + A1:2015 (EN 29053)

Moisture Properties

Water Permeability		
Property	Value	According to
Water Vapour Resistance Z	NPD	EN 13162:2012 + A1:2015
Water Vapour Transmission MU, μ	1	EN 13162:2012 + A1:2015 (EN 12086)

Mechanical Properties

Compressive Strength		
Property	Value	According to
Compressive Stress at 10 % deformation CS(10), σ_{10}	NDP	EN 13162:2012 + A1:2015 (EN 826)
Compressive Strength CS(Y), σ_m	20 kPa	EN 13162:2012 + A1:2015 (EN 826)
Point Load PL(5)	NDP	EN 13162:2012 + A1:2015 (EN 12340)

Tensile/Flexural Strength		
Property	Value	According to
Tensile Strength Perpendicular to Faces TR, σ_{mt}	20 kPa	EN 13162:2012 + A1:2015 (EN 1607)

Mechanical Properties

Release of Dangerous Substances to the Indoor Environment		
Property	Value	According to
Release of Dangerous Substances	NDP	EN 13162:2012 + A1:2015

Durability

Durability of Compressive Strength against Ageing/Degradation		
Property	Value	According to
Compressive Creep CC(i1/i2/y)σ_c, X_{ct}	NDP	EN 13162:2012 + A1:2015 (EN 1606)

Durability of Reaction to Fire Against Heat, Weathering, Ageing/Degradation	The fire performance of mineral wool does not deteriorate with time. The Euroclass classification of product is related to the organic content, which cannot increase with time.
Durability of Thermal Resistance Against Heat, Weathering, Ageing/Degradation	Thermal conductivity of mineral wool products does not change with time, experience has shown the fibre structure to be stable and the porosity contains no other gases than atmospheric air.

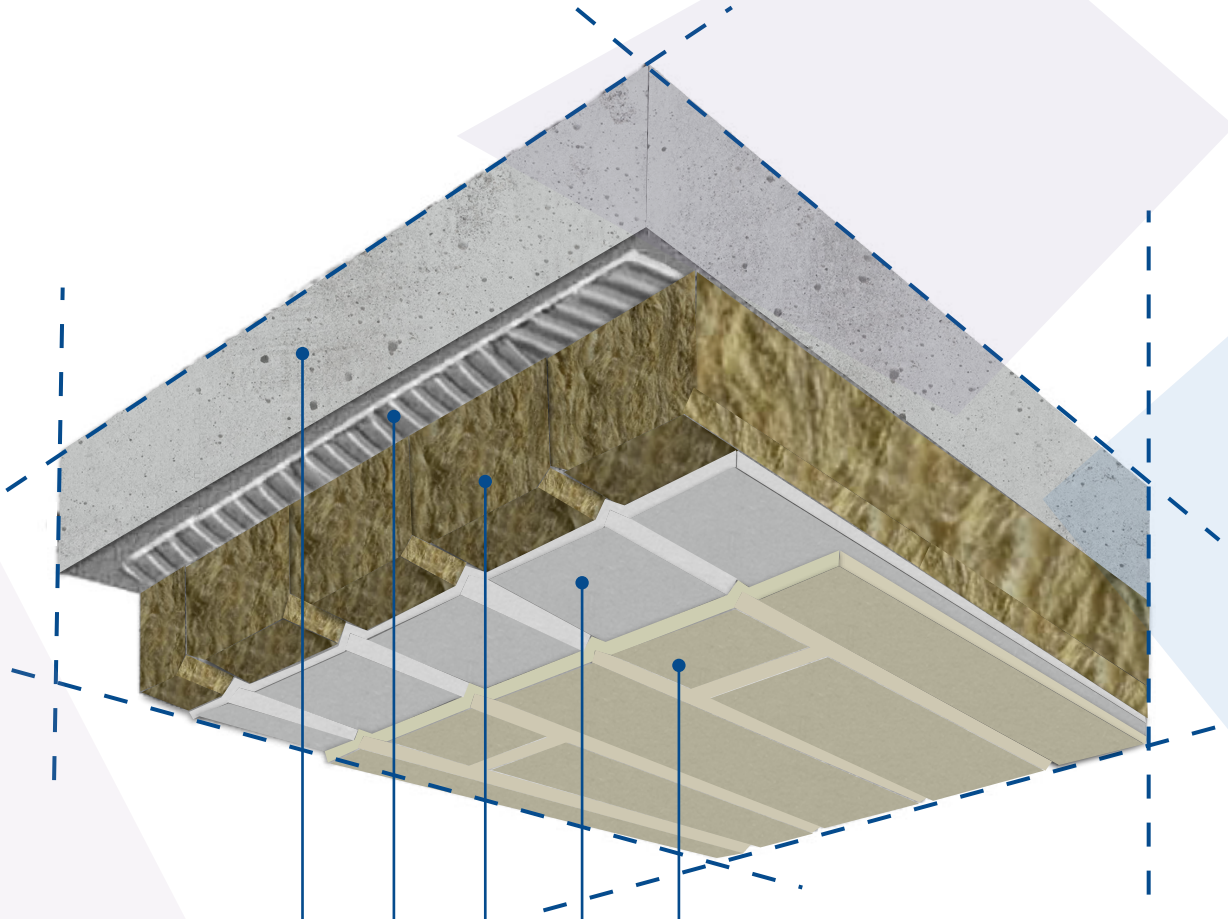
3.3.3 Rendering coat TERRIX® RD-MN-S

Base binder: mix of hydraulic binders with the addition of modifiers;
Colour: white;
Grain: 1.0 - 1.5 mm;
Mixing ratio: 6.25 litres of water per 25 kg of mortar;
Application time after adding water: not less than 2 hours;
Consumption: ca. 1.8-22 kg/m2;
Temperature of application (air and substrate): from +5°C to +25°C;
Compressive strength: CS IV;
Water absorption: cat W2;
Adhesion: ≥ 1.6 N/mm²;
Dry gross density of hardened mortar: ≤1500kg/m³
Water vapour permeability coefficient μ: ≤34.9;
Reaction to fire: class A1;
Packaging: Disposable paper bags containing 25 kg of product.
Storage: The product should be stored in its original sealed packaging, in a dry frost-protected room. Note: The product must be kept out of the reach of children.
Shelf life: 12 months from manufacture date specified on the packaging, provided that the storage requirements are observed. It is recommended to use the product within 6 months.

3.3.4 Top coat TERRIX® EP-PS (configuration 2 only)

Base binder: special modified potassium water glass;
Pigments: resistant to UV radiation and atmospheric conditions inorganic colour pigments;
Colour: natural white, colours from the Terrix® colour chart and selected NCS colours or samples provided (only colours that can be achieved with inorganic pigments);
Density: ca. 1.50g/cm³;
Gloss level: mat;
Solvent: water;
Consumption: ca. 0.33 l/m² (two coats on a smooth substrate);
Temperature of application (air and substrate): from +5°C to +25°C;
Relative humidity: ≤75%;
μm: Sd = 0.04 m (standard requirement Sd ≤ 2.0 m);
Surface water absorption: w = 0.05 kg/m² • h0.5 (standard requirement w ≤ 0.5 kg/m² • h0.5);
Packaging: Single-use plastic packaging of 5 and 10 l;
Storage: The product should be stored in its original sealed packaging, in a dry frost-protected room.
Note: The product must be kept out of the reach of children.
Shelf life: Originally sealed products have a 12-month shelf life from the date of production (this is printed on the side of the packaging);

5. System cross-section



1	Existing celling
2	Terrix® AD-AU mineral wool adhesive
3	Lamella wool PAROC CGL 20cy
4	Terrix® RD-MS-S mineral render for spray application
5	Terrix® EP-PS polymer-silicate paint (configuration 2 only)

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