

SUPERSET AC1®/ HARDSET®/SUPERPLASTIC®

Insulation compounds and cements

SUPERSET AC1® FINISHING CEMENT

SUPERSET AC1® is a hydraulic setting Portland cement based product, suitable for application over pre-formed, plastic or sprayable insulation. It can be used indoors or outdoors wherever an exceptionally hard and durable protection is required.

Each 25kg bag of SUPERSET AC1® should be mixed with 11 litres of water and applied over wire netting, expanded metal or wire reinforcement, in one 5mm layer and trowelled to a smooth finish.

The dry SUPERSET AC1® may be coated with PVA or water-based paints; oil based paints will need an alkali resistant primer applied to completely dry cement.

SUPERSET AC1® finishing cement conforms with BS 3958: Part 6.

TYPICAL PRODUCT PERFORMANCE

Nominal applied density	1200kg/m ³
Resistant to impact	22mm
Flexural strength	3000kN/m ²
Drying shrinkage	0.15%
Temperature limits for continuous service temperature	150°C
Combustibility (BS 476: Part 4)	Non-combustible
Dry state shelf-life	6 months
Appearance	White grey powder

Wet Covering Capacity

140m²/1000kg/5mm thickness over calcium silicate.

HARDSET® SETTING COMPOSITION

HARDSET® Hard Setting Composition is a clay-based product suitable for application over preformed or plastic insulation where heat is available to dry it out. It is for use indoors where a hard and durable finish is required.

Each 25kg bag of HARDSET® composition is mixed with 21 litres of water and applied over wire netting, expanded metal or wire reinforcement in two layers, each 5mm thick. The final coat should be trowelled to a smooth finish.

The dry Hard Setting Composition may be painted with emulsion paint, undercoat and gloss paint or PVA based coatings.

HARDSET® Hard Setting Composition conforms with BS 3958: Part 6.

TYPICAL PRODUCT PERFORMANCE

Nominal applied density	1300kg/m ³
Flexural strength	3000kN/m ²
Temperature limits for continuous service temperature	150°C
Combustibility (BS 476:Part 4:1970 (1984))	Non-combustible
Dry state shelf-life	6 months
Appearance	White/pink powder

Wet Covering Capacity

100m²/1000kg/10mm thickness over calcium silicate.

SUPERPLASTIC® INSULATION COMPOUND

SUPERPLASTIC® is an insulant powder form which is usually used for the general filling of joints between preformed insulation and for bedding in of slabs on irregular surfaces.

It is also particularly suitable for insulation of complex shapes where application of preformed or prefabricated insulation is impractical.

TYPICAL PRODUCT PERFORMANCE

Maximum recommended operating temperature	800°C	
Compressive strength		
1. Cold distortion, percentatge thickness reduction (load at onset of disruption: 1000kN/m ²)	1.5% at	600kN/m ²
2. After 24 hours heat soak at maximum temperature distortion percentage thickness reduction	1.5% at	500kN/m ²
Flexural strength	550kN/m ²	
Linear shrinkage after 24 hours heat soak at maximum temperature	1.4% at 800°C	
Specific heat capacity	0.84kJ (kgK)	
Thermal conductivity:		
Mean temperature:	°C	K value (w/mK)
	100	0.054W (mK)
	150	0.058W (mK)
	200	0.063W (mK)
	250	0.068W (mK)
	300	0.074W (mK)
	350	0.082W (mK)

Covering capacity: If mixing instructions are followed then Superplastic with cover 172m² at 25mm thick (1000kg).

PRODUCT APPLICATION

(A) Mixing

Step 1: It is recommended that 22.5 litres of water is added to each 12.7kg bag approximately four hours before SUPERPLASTIC® is required.

(B) Applying the Product

Step 1: The surfaces to be insulated should be free from dirt, grease and loose scale. For best results SUPERPLASTIC® should be applied to

- (i) A surface primed with china clay slurry or well fibred hard setting cement
- (ii) A hot surface at 80°C.

Step 2: Just prior to use, the bag should be split open and the contents thoroughly mixed, adding more water if required to achieve the desired working consistency.

Step 3: The first coat should be applied as thinly as possible.

Step 4: The first coat should be followed by 13mm thick coats up to the specified thickness.

Note: SUPERPLASTIC® should be reinforced with galvanised wire netting every 65mm of thickness.

STANDARDS COMPLIANCE

- SUPERPLASTIC® exceeds the performance requirements of BS 3958:Part 2: 1982.
- SUPERPLASTIC® complies with the requirements of ASTM 533-85 with reference to strength and thermal properties.
- SUPERPLASTIC® meets the requirements of Naval engineering Standards NES 800: Part 1: 1985.
- MOD and Powergen/National Power approved.