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a.b.e.® Construction Chemicals

abe.®cote SF 217
Solvent free

HIGH CHEMICAL RESISTANT CLEAR RESIN SYSTEM

DESCRIPTION

abe.®cote SF 217 is a two component, solvent free novolac modified epoxy.

USES

abe.®cote SF 217 clear resin system is used for sealing, laminating, screening and grouting applications. Not suitable for use on galvanised or other zinc coated surfaces.

ADVANTAGES

- High chemical resistance not possible with standard epoxies
- May be used as a laminating resin
- For high chemical resistance screeding
- For chemical tile grouting
- For sealing porous elements such as concrete and wood

COLOUR

Light amber – do not use pigments.

SURFACE PREPARATION

All surfaces must be clean, sound and dry. Moisture content tests must be conducted prior to application of the priming system. Maximum moisture content should be between 4 – 5% (e.g. Protimeter Survey Master or equivalent) or Dynamic Calcium Chloride moisture "weight gain" over 24 hours or (a practical overnight "plastic sheet test" is also advisable approximately 1 m^2 masked down on surface).

BONDING/PRIMING

abe.®cote 384 for metal surfaces.

PROPERTIES OF WET MATERIAL	
Density	1.132 g/cm³
Colour	Light amber. **Note:** the use of stir-in paste pigments will compromise chemical resistance
Flash point	+120 °C
Storage coverage	Store under cover in cool conditions
Dilution	Do not dilute

PROPERTIES DURING APPLICATION	
Application by	Brush or mohair roller for unfilled systems
Application temperature range	10 °C to 40 °C
Work-life	Approximately 50 minutes @ 25 °C
Volume solids	100%
Curing time @ 25 °C	Touch dry: 4 hours Practical cure: 24 hours Full cure: 7 days
Overcoating time @ 25 °C	Minimum: 8 hours Maximum: 24 hours

Unfilled system	
Maximum wft	Approximately 75 µm on a non-porous surface
Theoretical coverage for above dft	Coverage on concrete varies according to porosity
Spread rate	A practical spread rate would be approximately 6 m^2/L/coat
Recommended number of coats	2 minimum and 3 for adverse conditions
Filled system	
Typical film thickness	6 – 10 mm
Spread rate film thickness	1 L/m^2 yields 1 mm

CHEMICAL PROPERTIES OF DRY FILM
See last 2 pages of this data sheet.

PROPERTIES OF CURED MATERIAL	
Maximum service temperature	Chemical resistance best at ambient and dramatically reduced at higher temperatures (see charts on next pages)
Shrinkage during cure	Negligible

MIXING

Add the entire contents of the activator tin to the base and, without splashing, stir with a flat paddle until homogeneous. This takes at least five minutes. Beware high summer temperature and overfast drill mixing causing extremely fast curing. Very low winter temperature retards/stops curing.

COVERAGE

See last page of this data sheet.

APPLICATION

For laminating and sealing applications:

Apply **abe.®cote SF 217** by brush or short fibre roller. Overcoating times must be strictly adhered to. Final cure time, particularly in immersion situations, must also be adhered to. **abe.®cote SF 217** must not be applied if the ambient temperature is below 5 °C. The curing reaction will not proceed at low temperatures.

For screeding and grouting applications

Premix the aggregate to obtain even distribution of the various fractions. When using a mechanical mixer, place mixed liquid in the pan and slowly add the premixed aggregate, mixing until an evenly coated wetted mix results. Use this procedure also if manual mixing is carried out in a drum. All lumps must be broken down and an even, wetted mass obtained. Apply by means of a pointing trowel to tiles, remove excess and ensure that surface is tooled to compact. When screeding, lay using plastic trowels and screed rails of the appropriate thickness. Rails should be kept as clean as possible otherwise false thicknesses will result.

Small areas should be laid at a time trowelled to a smooth surface and not touched again. Always try to achieve a wet joint where one area abuts another. Where it is known that an edge is going to form an overnight joint, this should be trowelled to give a feather edge over at least a 50 mm width. Prime this feather edge before laying adjacent material.

CLEANING

abe® super brush cleaner before dried/cured.

PROTECTION ON COMPLETION

Protect against traffic and spillage until cured. Most epoxies chalk and degrade in extensive sunlight.

MODEL SPECIFICATION

Two component, solvent free high chemical resistant clear resin system.

The system will be **abe.®cote SF 217**, solvent free, high chemical resistant, clear resin applied in accordance with **a.b.e.® Construction Chemicals**' recommendations including necessary fillers as directed.

PACKAGING

abe.®cote SF 217 is supplied in 5 L kits (Code: 21701005).

HANDLING AND STORAGE

All **abe.®cote SF 217** related products have a shelf-life of 12 months if kept in a dry, cool store in the original, unopened packs. If stored at high temperatures and/or high humidity conditions, the shelf-life may be reduced.

HEALTH AND SAFETY

Wet **abe.®cote SF 217** is toxic. Ensure the working area is well ventilated during application and curing Avoid inhalation of dust and contact with skin and eyes. Suitable protective clothing, gloves, eye protection and respiratory protective equipment should be worn. The use of barrier creams provides additional skin protection. If contact with skin occurs, wash with water and soap. Splashes into eyes should be washed immediately with plenty of clean water and medical advice sought.

Cured **abe.®cote SF 217** is inert and non-toxic but must not be allowed to come into contact with foodstuff or drinking water.

Note: When transporting liquids and semi-liquids by aircraft, ask for material safety data sheet.

IMPORTANT NOTE

This data sheet is issued as a guide to the use of the product(s) concerned. Whilst **a.b.e.® Construction Chemicals** endeavours to ensure that any advice, recommendation, specification or information is accurate and correct, the company cannot – because **a.b.e.®** has no direct or continuous control over where and how **a.b.e.®** products are applied – accept any liability either directly or indirectly arising from the use of **a.b.e.®** products, whether or not in accordance with any advice, specification, recommendation, or information given by the company.

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements. **a.b.e.® Construction Chemicals** has a wealth of technical and practical experience built up over years in the company's pursuit of excellence in building and construction technology.

Key * Based on reference

R: Resistant (subject to a reasonable standard of housekeeping).

LR: Limited resistance i.e. occasional spillage provided it is quickly washed down or rapidly evaporated

NR: Not resistant

The classification 'resistant' has been given where samples have retained more than 70% of their compressive strength and have not lost or gained more than 3% of their weight when totally immersed in the environments. Experience has shown that this interpretation correlates well with practical applications. As a result the above table has been compiled as a guide to the suitability of correctly applied screeding material provided that a reasonable standard of housekeeping is maintained during service.

End users should satisfy themselves that the screeding material is suitable for their particular environmental conditions and take into account the mechanical duty which may accompany any chemical spillage. It should also be noted that some environments (especially inorganic chemicals) will affect the colour of the screeding material on the surface.

CHEMICAL RESISTANCE OF SCREEDING/GROUT COMPOUND – abe.®cote SF 217

Chemical	Temperature	Compressive strengths/ retention	Class
Reference	25 °C	52 MPa/NA	NA
De-ionised water	25 °C	37 MPa/71%	R
MINERAL ACIDS			
30% HCl (Hydrochloric)	25 °C	52 MPa/100%	R
30% HCl (Hydrochloric)	98 °C	47 MPa/91%	LR
38% H_2SO_4 (Sulphuric)	25 °C	51 MPa/90%	R
38% H_2SO_4 (Sulphuric)	98 °C	27 MPa/52%	LR
70% H_2SO_4 (Sulphuric)	25 °C	49 MPa/94%	R
98% H_2SO_4 (Sulphuric)	25 °C	52 MPa/100%	R
98% H_2SO_4 (Sulphuric)	42 °C	24 MPa/47%	LR
25% H_2SO_4 (Sulphuric)	Draper Penhall Cycle	42 MPa/82%	R
98% H_2SO_4 (Sulphuric)	(7 days @ 60 °C + 7 days RT) x 2	–	NR
93% HNO_3 (Nitric)	25 °C	–	NR
93% HNO_3 (Nitric)	42 °C	–	NR
30% HNO_3 (Nitric)	Draper Penhall Cycle	–	NR
Equal amounts of 30% HCl/38% H_2SO_4/93% HNO_3	25 °C	–	
Equal amounts of 30% HCl/38% H_2SO_4/93% HNO_3	42 °C	–	NR
56% H_3PO_4 (Phosphoric)	25 °C	47 MPa/91%	R
56% H_3PO_4 (Phosphoric)	88 °C	–	NR
80% H_3PO_4 (Phosphoric)	25 °C	49 MPa/94%	R
80% H_3PO_4 (Phosphoric)	Draper Penhall Cycle	–	NR

CHEMICAL RESISTANCE OF SCREEDING/GROUT COMPOUND – abe.®cote SF 217			
Chemical	**Temperature**	**Compressive strengths/ retention**	**Class**
ORGANIC ACIDS			
10% Lactic acid	25 °C	46 MPa/89%	R
10% Acetic acid	25 °C	37 MPa/71%	R
SOLVENTS			
Methanol	25 °C	22 MPa/43%	LR
Ethanol	25 °C	42 MPa/80%	R
Toluol	25 °C	51 MPa/99%	R
Xylene	25 °C	52 MPa/100%	R
MEK	25 °C	15 MPa/28%	LR
1,1,1 Trichloroethane	25 °C	52 MPa/100%	R
ALKALIS			
50% NaOH (Caustic)	25 °C	51 MPa/99%	R
BLEACH			
10% Sodium hypochlorite	25 °C	40 MPa/77%	R

MIXING RATIOS AND MIXING WEIGHTS WITH APPROPRIATE YIELDS					
System	**Base *1**	**Activator *1**	**Aggregate *2**	**Yield**	**Spread rate**
Laminating	3.479 kg or 3 L	2.074 kg or 2 L	None – but may be used with chemical resistant non-woven mat	5 L	13.33 m²/L at 75 µm wft (no loss taken into account)
Sealing	3.479 kg or 3 L	2.074 kg or 2 L	None – but may be used with chemical resistant non-woven mat	5 L	13.33 m²/L at 75 µm wft (no loss taken into account)
Screed	1.057 kg	0.630 kg	8.0 kg	5 L	1 L/m² yields 1 mm film thickness
Grout	1.057 kg	0.630 kg	8.0 kg	5 L	1 L/m² yields 1 mm film thickness

*1 – may be mixed 3:2 by volume, but proportioning by weight is best
*2 – use 20051008 aggregate

DATE UPDATED: 18/10/17