THE FULL RANGE OF SECAR® CALCIUM ALUMINATE

	CIMENT FONDU®	SECAR® 41	SECAR® 51
REFRACTORINESS			
Pyrometric cone equivalent on neat cement paste (°C)	1,270 - 1,290	1,315	1,430 - 1,450
CHEMICAL COMPOSITION (%) - EN 196-2			
Al_2O_3	37.5 - 41.5	45 - 51	50.8 - 54.2
CaO	36.5 - 39.5	34.8 - 39.9	35.9 - 38.9
SiO_2	2.5 - 5.0	4.5 - 6.5	4.0 - 5.5
Fe_2O_3	14.0 - 18.0	4.0 - 9.0	1.0 - 2.2
TiO_2	< 4.0	-	< 4.0
MgO	< 1.5	-	< 1.0
$Na_2O + K_2O$	< 0.4	≤ 0.4	< 0.5
SO_3		≤ 0.5	
MINERALOGICAL COMPOSITION			
Principal phases	CA	CA	CA
Secondary phases	$C_{12}A_7$, C_2S, C_2AS, C_4AF	$C_{12}A_7$, C_2S, C_2AS, CT	$C_{12}A_7$, C_2AS, CT
SPECIFIC GRAVITY (g/cm³)			
	3.2 - 3.3	3.0 - 3.09	2.95 - 3.05
FINENESS			
Blaine specific surface area (cm^2/g) - EN 196-6	2,850 - 3,450	3,000 - 4,000	3,750 - 4,250
Laser PSD - d50 (µm)	18	16 - 25	14
Laser PSD - d90 (µm)	64	90 - 100	55
MORTAR PROPERTIES			
Sand mortar formulation	Cement/sand ratio = 1/2.7 water/cement ratio = 0.4 (0.45 for flow)	Cement 500g, sand 1,350g water 200g (W/C = 0.4)	Cement 500g, sand 1,350g water 200g (W/C = 0.4)
Flow after 30 minutes (%) - ASTM C230	> 30 (after 15 minutes)	> 50	> 30
Setting time by Vicat needle (minutes)			
Initial set	130 - 210	190 - 270	190 - 270
Final set	140 - 230	200 - 280	210 - 300
Compressive strength (MPa) - EN 196-1			
After 6 hours (8 hours)*	35 - 50	20 - 30	20 - 55
After 24 hours	55 - 70	45 - 65	55 - 85
CASTABLE PROPERTIES			
Formulation type: *– CC: Conventional Castable* *– LCC: Low Cement Castable* *– ULCC: Ultra Low Cement Castable*	CC based on chamotte (40% Al_2O_3), 15% cement	CC based on chamotte (40% Al_2O_3), 15% cement	CC based on chamotte (40% Al_2O_3), 15% cement
Water addition (%)	12	11	11
Flow (%) - ASTM C230			
Initial flow	110	120	125
At 30 minutes	75	100	100
At 60 minutes	60	90	100
Working time (minutes) - after 20 second vibration	120	180	170
Compressive strength (MPa)			
After drying at 110°C for 24 hours	54	65	68
After firing at 800°C for 6 hours	27	40	40
After firing at 1,100°C for 6 hours	21	31	32

CEMENTS AND BINDERS

SECAR® 71	SECAR® 80	SECAR® 80F	SECAR Plenium®	SECAR Xeniom™
1,590 - 1,620	1,770 - 1,810	1,770 - 1,810	1,770 - 1,810	1,770 - 1,810
68.7 - 70.5	79.5 - 82.0	79.5 - 82.5	79.5 - 82.0	82.0 - 85.0
28.5 - 30.5	16.2 - 17.8	16.2 - 17.8	16.2 - 17.8	14.0 - 16.0
0.2 - 0.6	0.35	< 0.35	0.35	< 0.35
0.1 - 0.3	0.2	< 0.2	0.2	< 0.3
< 0.4	< 0.3	< 0.3	< 0.3	< 0.3
< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
< 0.5	< 0.7	< 0.7	< 0.7	< 0.7
< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
CA, CA_2, $C_{12}A_7$, $A\alpha$	CA, CA_2, $A\alpha$ $C_{12}A_7$	CA, CA_2, $A\alpha$ $C_{12}A_7$	CA, CA_2, $A\alpha$ $C_{12}A_7$	CA, CA_2, $A\alpha$ $C_{12}A_7$
2.90 - 3.05	3.2 - 3.3	3.2 - 3.3	3.2 - 3.3	3.2 - 3.3
3,800 - 4,400	8,000 - 12,000	8,000 - 12,000	9,000 - 13,000	> 10,000
12	6	6	6	6
50	50	50	50	45
Cement 450g, sand 1,350g water 225g (W/C = 0.4)	Cement 500g, sand 1,350g water 180g (W/C = 0.36)	Cement 500g, sand 1,350g water 180g (W/C = 0.36)	Cement 500g, sand 1,350g water 160g (W/C = 0.32)	Cement 500g, sand 1,350g water 200g (W/C = 0.36)
> 60	> 30	> 30 (after 60 minutes)	> 50 (after 60 minutes)	90 - 140
190 - 240	40 - 90	220 - 400	170 - 230	35 - 60
200 - 250	55 - 125	280 - 460	180 - 260	45 - 70
15 - 30	1 - 2	2 - 5*	–	8 - 12
40 - 55	27 - 35	17 - 25	24 - 32	14 - 20
CC based on chamotte, 15% cement / LCC based on tabular alumina, 5% cement	CC based on tabular alumina, 15% cement	CC based on tabular alumina, 15% cement	LCC based on tabular alumina spinel, 10% cement	ULCC based on andalusite, 10% cement
9 / 5	7	7	5	6
110 / 120	120	120	125	240
90 / 120	100	120	90	240
80 / 100	–	110	–	220
120 / 90	60	120	60	80
70 / 130	80	90	108	140
43 / 160	65	70	115	170
37 / 160	60	64	104	170

Note: The properties of the cements listed in the above table reflect the typical values of our production and are given for guidance only. For product specifications, please refer to the Product Data Sheets available at your local representative office or consult our website: www.secar.net

TECHNICAL CHARACTERISTICS

TYPICAL APPLICATIONS

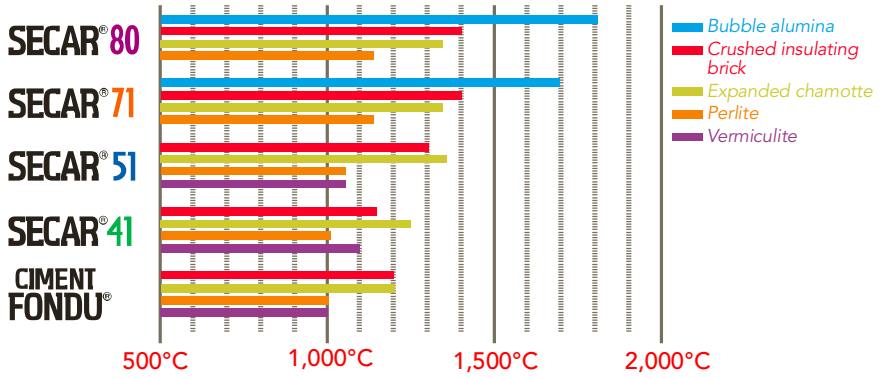
INDICATIVE SERVICE TEMPERATURE LIMITS

> Typical applications

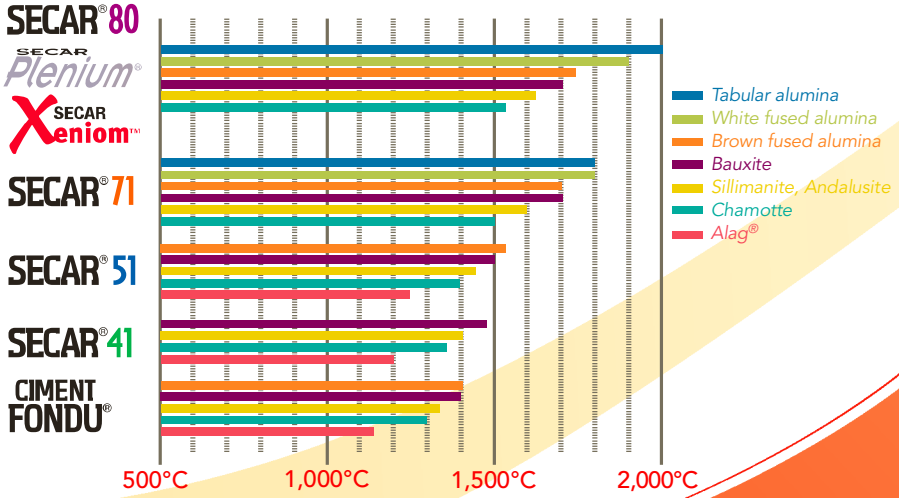
	CIMENT FONDU®	SECAR® 41	SECAR® 51	SECAR® 71	SECAR® 80	SECAR Plenium®	SECAR Xeniom™
INSULATING CASTABLES							
Casting	■	■	■	■	■		
Gunning	■	■	■	■	■		
DENSE CONVENTIONAL CASTABLES							
Casting	■	■	■	■	■	■	
Gunning	■	■	■	■	■		
DEFLOCCULATED CASTABLES (MCC - LCC - ULCC)							
Casting				■		■	■
Gunning				■		■	■
Self flow				■			■
Shotcreting				■			■

> Indicative service temperature limits

INSULATING CASTABLES



DENSE CASTABLES



1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY

Product name: 585 nanostrenghtened epoxycoating part A

TEKE OY

Kivistönkuja 5,
45370, Valkeala
www.teke.fi

2. COMPOSITION / INFORMATION ON INGREDIENTS

Preparation description: Blend of liquid epoxy resin(s), additives and diluents

Dangerous components/constituents

CAS Number:

25068-38-6Bisfenol A and epichlorohydrin reaction result, epoxy resin60 – 90 %		
	Xi, N; R 36/38, 43, 51/53	
28064-14-4 Bisfenol F epichlorohydrin epoxy resin10 – 40 %		
	Xi, N; R43-51/53	

3. HAZARDS IDENTIFICATION

Xi, N Irritant, toxic to aquatic environment

R 36/38 Irritating to eyes and skin.
R 43 May cause sensitization by skin contact.
R 51/5 Toxic to aquatic organism. May cause long term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

Symptoms and effects: Irritation of the skin and eyes.

First Aid:
– inhalation No specifi c measures
– skin Do not delay. Remove contaminated clothing. Wash skin with water using soap if available. If persistent irritation occurs, obtain medical attention.
– eye Do not delay. Flush eye with water. If persistent irritation occurs, obtain medical attention immediately.
– ingestion Do not induce vomiting. In the unlikely event of ingestion, obtain medical attention immediately.

Advice to Physicians: If skin sensitisation has deve loped and a causal relationship has been confi rmed, further exposure should not be allowed.

TAKUULLA VALMIIKSI
ASSURED QUALITY

5. FIRE FIGHTING MEASURES

Special hazards: Not classifi ed as fl ammable, but will burn.
Carbon monoxide may be involved incomplete combustion occurs.
Extinquishing media:
– small fi res Dry chemical powder, carbondioxide foam, water spray or fog, sand or earth.
– large fi res Foam, water spray or fog.

Unsuitable extinguishing media: Water in a jet.
Protective equipment: Full protective clothing and self contained breathing apparatus.
Other information: Keep adjacent containers cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid contact with skin, eyes and clothing
Personal protection: Wear protective clothing specifi ed for normal operations (see section 8).
Environmental precautions: Prevent contamination of soil and water. Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers. If materials enters drains it should be pumped out into a open vessel. Emergence services may need to be called to assist in this operation.
Clean-up methods:
– small spillage Absorb or contain liquid with sand, earth or spill control material. Shovel material to labelled sealable container for safe disposal.
– large spillage: Transfer to a labelled container for product recovery or safe disposal. Otherwise treat as for small spillage.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin, eyes and clothing
Storage: Keep container tightly closed and dry.
Palletised loads should be stacked to a maximum of 4 high.
Storage temperatures: Ambient.

8. EXPOSURE CONTROLS / personal protection

Occupational
exposure standards: None established.
Respiratory protection: Not normally required. In a confi ned space wear half mask respirator with organic vapour cartridge and build-in particular fi lter NPF 20 (gas only). If product is applied by spraying wear self contained breathing apparatus.
Hand protection: Nitride rubber gloves or butyl rubber gloves, gauntlet type.
Eye protection: Monogoggles.
Body protection: Standard issue work clothes, safety boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid/gel
Colour: white / grey
Odour: Slight
Density: 1100 – 1300 kg/m^3 @ 25 ^{o}C (typical)
Flash point: Over 200 ^{o}C
Solubility in water: Negligible
N-octanol/
water partition coeffi cient Data not available

TAKUULLA VALMIIKSI
ASSURED QUALITY

10. STABILITY / REACTIVITY

Stability: Stable under normal use conditions. Reacts with strong oxidising agents. Polymerises exothermically with amines, mercaptens and Lewis acids at ambient temperature and above. Polymerises in contact with bases (e.g. caustic soda), ammonia, primary and secondar y amines, alcohol's and acids.
Conditions to avoid: Caustic soda can induce a vaporous polymerisation at temperatures over 150 °C.
Materials to avoid: Strong oxidising agents. Caustic soda.
Hazardous decomposition products: Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:
– oral LD50 > 5000 mg/kg.
– dermal LD50 > 5000 mg/kg.
Eye irritation: Irritant.
Skin irritation: Irritant.
Respiratory irritation: Not irritating.
Skin sensitisation: Skin sensitiser.
Carcinogenicity: A recent review of the available data by the International Agency for Research on Cancer (IARC), has concluded that DGEBPA is not classifi able as to its carcinogenicity.
Mutagenicity: Positive in vitro, but negative in vivo assays.

12. ECOLOGICAL INFORMATION

Basis for assessment: Information given based on data on the components and the ecotoxicology of similar products.
Mobility: Sinks in water.
Persistence/degradability: Not readily biodegradable.
Bioaccumulation: Has the potential to bioaccumulate
Acute toxicity - fi sh: Toxic, 1 < LC50 > 10 mg/l.
Sewage treatment: Toxic, EC50 > 1 - 10 mg/l, to organisms in sewage treatments plants. Toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

Precautions: See section 8. Refer to section 7 before handling the product or containers.
Waste disposal: Recover or recycle if possible. Otherwise incineration or dispose to licensed contractor.
Product disposal: Drain container th oroughly. Rinse three times with suitable solvent. Treat rinses as for product disposal. After Draining, vent in a safe place away from sparks and re. Send to drum recovered or metal reclaimed.
Local legislation: Control of Pollution Act 1974. Control of Pollution (Special waste) Regulations 1980. Environmental Protection Act 1990.

14. TRANSPORT INFORMATION

Classifi cation / ADR / RID
Name Environmentally hazardous liquid substance N.O.S (Epoxy resin)
Classifi cation 9
UN Number 3082
Packaging group 2
Classifi cation Xi, N

IMDG / Sea transport
Name Environmentally hazardous liquid substance N.O.S (Epoxy resin)
Classifi cation 9
UN Number 3082
Packaging group 2
Kemler code 90
EmS no. 8 – 05
Marine pollutant yes
Classifi cation Xi irritant
Name Epoxy Primer (contains epoxy resin)

ICAO / IATA / Air transport
Name Environmentally hazardous liquid substance N.O.S (Epoxy resin)
Classifi cation 9
UN Number 3082
Packaging group 2
Classifi cation Xi, N

15. REGULATORY INFORMATION

Label name Epoxy resin (Number average, Molecular weight < 700).
Classifi cation & Labelling: Irritant. Dangerous for the environment.
Xi, N

Risk phrases: R36/38 Irritating to eyes and skin.
R43 May cause sensitisation by skin contact.
R51/53 Toxic to aquatic organisms, may cause long-term adverse affects in the aquatic environment.

Safety phrases: S24 Avoid contact with skin.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 After contact with skin, wash immediately with plenty of soap and water.
S37/39 Wear suitable gloves and eye/face protection.
S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

16. OTHER INFORMATION

Uses and restrictions: Epoxy resin for civil engineering and composites industry

MSDS distribution: This document contains important information to ensure the safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.

DISCLAIMER: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as a guarantee of any specifi c property of the product.

TAKUULLA VALMIIKSI
ASSURED QUALITY

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY

Product name: 585 nanostrenghtened epoxycoating part B

TEKE OY

Kivistönkuja 5,
45370, Valkeala
www.teke.fi

2. COMPOSITION / DATA ON COMPONENTS

Preparation description: Cycloaliphatic polyamine

Dangerous components/constituents

CAS Number:

2855-13-2Isophoronediamine0 –	100 %	
	C, R 21/22, R 34, R 43, R 52/53	

3. HAZARDS IDENTIFICATION

C Corrosive

R 21/22 Harmfull when swallowed or exposed internally.
R 34 Causes burns to the eyes and skin.
R 43 May cause sensitization by skin contact.
R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

Symptoms and effects: Irritation of the skin and eyes.

First Aid:
– inhalation No specifi c measures

– skin Do not delay. Remove contaminated clothing. Wash skin with water using soap if available. If persistent irritation occurs, obtain medical attention.

– eye Do not delay. Flush eye with water. If persistent irritation occurs, obtain medical attention immediately.

– ingestion Do not induce vomiting. In the unlikely event of ingestion, obtain medical attention immediately.

Advice to Physicians: If skin sensitisation has deve loped and a causal relationship has been confi rmed,

5. FIRE FIGHTING MEASURES

Special hazards: Not classifi ed as fl ammable, but will burn.
Carbon monoxide may be involved incomplete combustion occurs.
Extinquishing media:
– small fi res Dry chemical powder, carbondioxide foam, water spray or fog, sand or earth.
– large fi res Foam, water spray or fog.

Unsuitable extinguishing media: Water in a jet.
Protective equipment: Full protective clothing and self contained breathing apparatus.
Other information: Keep adjacent containers cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid contact with skin, eyes and clothing.
Personal protection: Wear protective clothing specifi ed for normal operations (see section 8).
Environmental precautions: Prevent contamination of soil and water. Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers. If materials enters drains it should be pumped out into a open vessel. Emergence services may need to be called to assist in this operation.
Clean-up methods:
– small spillage Absorb or contain liquid with sand, earth or spill control material. Shovel material to labelled sealable container for safe disposal.

– large spillage Transfer to a labelled container for product recovery or safe disposal. Otherwise treat as for small spillage.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin, eyes and clothing
Storage: Keep container tightly closed and dry. Palletised loads should be stacked to a maximum of 4 high. Protect from heat, moisture and direct sunlight.
Storage temperatures: Ambient.

8. EXPOSURE CONTROLS / personal protection

Protective gloves and safety goggles.

Occupational
exposure standards: None established.
Respiratory protection: Not normally required. In a confi ned space wear half mask respirator with organic vapour cartridge and build-in particular fi lter NPF 20 (gas only). If product is applied by spraying wear self contained breathing apparatus.
Hand protection: Nitride rubber gloves or butyl rubber gloves, gauntlet type.
Eye protection: Monogoggles.
Body protection: Standard issue work clothes, safety boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Colour: clear / pale yellow
Odour: Slight
Density: 920 – 1000 kg/m^3 @ 25 °C (typical)
Dynamic viscosity: 0.05 – 0.2 Pa.s @ 25 °C
Flash point: over 100 °C
Ignition temperature: over 200 °C
Solubility in water: Negligible
N-octanol/
water partition coeffi cient: Data not available

10. STABILITY / REACTIVITY

Stability: Stable under normal use conditions.
Reacts with monomers, resins and strong oxidising agents
Conditions to avoid: Monomers, resins, water and oxidising agents
Materials to avoid: As above
Hazardous
decomposition products: Hazardous decomposition prod ucts are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for assessment: Information given in based on data on the components and the toxicology of similar products.
Triethyleneamine
Acute toxicity - oral: LD50 2500 mg/kg
Polyoxoalkylene
Acute toxicity - oral: LD50 2855 mg/kg

Eye irritation: Corrosive
Skin irritation: Corrosive
Respiratory irritation: Not irritating at ambient temperatures. Avoid breathing fumes.
Skin sensitisation: Skin sensitizer.

12. ECOLOGICAL INFORMATION

Toxic to aquatic environment. Do not allow to reach ground water or sewage system.

13. DISPOSAL CONSIDERATIONS

Precautions: See section 8. Refer to section 7 before handling the product or containers.
Waste disposal: Recover or recycle if possible. Otherwise incineration or dispose to licensed contractor.
Product disposal: Drain container th oroughly. Rinse three times with suitable solvent. Treat rinses as for product disposal. After Draining, vent in a safe place away from sparks and re.
Send to drum recovered or metal reclaimed.

14. TRANSPORT INFORMATION

Classifi cation / ADR / RID
Name Amines, liquid corrosive N.O.S (isophoronediamine)
Class 8
UN number 2289
Classifi cation C, N Corrosive, Toxic to aquatic environment
Kemler number 80
Packaging group 3

IMDG / IATA air and sea transport
Name Amines, liquid corrosive N.O.S (isophoronediamine)
Class 8
UN number 2289
Classifi cation C, N Corrosive, Toxic to aquatic environment
Kemler number 80

Packaging group 3

15. REGULATORY INFORMATION

EC Label name Polyamines, liquid, corrosive
EC Classifi cation Corrosive, irritant. Dangerous for the environment.
EC Symbols C

EC Risk phrases R21/22 Harmofull when swallowed or exposed internally.
R34 Causes burns to eyes and skin.
R43 May cause sensitisation by skin contact.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

EC Safety phrases S1/2 Keep locked up and out of the reach of children.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 Wear suitable gloves and eye/face protection.
S45 In case of accident seek medical advice
S61 Avoid release to the environment

16. OTHER INFORMATION

Uses and restrictions: Compositions for the buildi ng and civil engineering industries e.g. fl ooring compounds, adhesives, mortars and solvent free high-solid coatings, laminating binders. Composites industry curing agent for industrial useage.

MSDS distribution: This document contains important information to ensure the safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.

DISCLAIMER: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as a guarantee of any specifi c property of the product.

LOCTITE® 7257™

September 2008

PRODUCT DESCRIPTION

LOCTITE® 7257™ provides the following product characteristics:

Technology	Magnesium phosphate-based
Appearance	Gray liquid (mix to desired consistency)
Components	Two component - requires mixing
Cure	Room temperature cure after mixing
Application	Flooring & grout
Specific Benefit	• Easier to work with • Applicator friendly • Fast setting • Cure temp.: -26 °C to +46 °C

LOCTITE® 7257™ is a unique, two-component, rapid setting concrete repair and grouting system that outperforms conventional concrete repairs. A high performance, magnesium phosphate-based system, LOCTITE® 7257™ cures faster than concrete, and unlike concrete, it bonds to new and old concrete as well as most construction materials including wood and steel. Since LOCTITE® 7257™ does not use a water additive, this repair system can be applied at virtually any temperature without shrinkage and is freeze/thaw and deicing salt resistant. This product is typically used for the repair of concrete highway walls, pot holes, airport runways, anchoring machinery, commercial refrigeration floors, loading docks, grouting bedplates and soleplates, columns and bridge decks, parking structure joints, concrete pillars, floor repairs, ramps, rail grouting, anchoring bolts and handrails. This product is typically used in applications with an operating range of -26 °C to +1090 °C.

TYPICAL PROPERTIES

Coverage, 3.8 liter (1 gallon)	0.45 m² @ 0.64 cm thick/4.54 kg (4.8 ft² @ 0.25 in thick/10 lb)
Coverage, 19 liter (5 gallon)	2.0 m² @ 0.64 cm thick/20.4 kg (21.6 ft² @ 0.25 in thick/45 lb)

TYPICAL CURING PERFORMANCE

Set Time, minutes:

Initial	3 to 11
Final	15 to 22

TYPICAL PERFORMANCE

Compressive Strength:

After 2 hours	N/mm² (psi)	17 to 21 (2,500 to 3,000)
After 3 days	N/mm² (psi)	28 to 41 (4,000 to 6,000)
After 28 days	N/mm² (psi)	48 to 55 (7,000 to 8,000)
After 1 year	N/mm² (psi)	90 (13,000)

GENERAL INFORMATION

For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).

Directions for use:

1. **Preparation:** For best results, surface must be clean, dry and free from loose material. Remove all dirt, blacktop tar, and oil substances from the area to be covered, leaving a rough clean surface.
2. **Forms:** If forms are needed, use plastic or Formica.
3. **Mixing:** To mix material, add aggregate to activator and mix thoroughly. Add only enough activator to obtain the consistency desired for the application. Mix approximately 3.8 liters of activator to 20.4 kgs of aggregate (approximately 1:5 ratio). Material should be mixed immediately prior to placement and should be completed soon as possible.
4. **Deep Pours:** For repairs greater than 2.5 cm in depth, up to 13.6 kgs of dry pea gravel can be added for each 20.4 kgs of Magna-Crete® as a filler. Dry pea gravel should be added to the activator before the Magna-Crete® aggregate is mixed. For large applications, use HOT WEATHER MIX to manage the set time for additional working time.
5. **Water:** Work areas can be damp, however, standing water should be removed. Water should not be used to dilute the liquid or to adjust consistency of Magna-Crete®.
6. **Cold Weather Application:** Set-up time will be longer in colder applications. For those applications where the application temperature is less than 7 °C use COLD WEATHER MIX (one 0.45 kg package per 20.4 kgs of Magna-Crete® increases the cure speed by approximately 10 minutes) to accelerate the set time of the mixed material. Addition of the Winter additive should be made after the Magna-Crete has been thoroughly mixed, and just prior to the application or pouring of the Magna-Crete.
7. **Warm Weather Application:** For applications where the application temperature is greater than 29 °C, use HOT WEATHER MIX (one 0.45 kg package per 20.4 kgs of Magna-Crete® decreases the cure speed by approximately 10 minutes) to manage the exothermic reaction and the working time of the mixed material. The Summer additive should be thoroughly mixed into the liquid portion of the Magna-Crete. The Magna-Crete can then be mixed, and applied/poured.
8. **Clean-up:** Keep an adequate supply of water on hand to wash mixer and tools as soon as set begins 9 to 15 minutes at 20 °C.

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

Storage
Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.
Optimal Storage: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °C can adversely affect product properties. Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Note
The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage
Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.0

Didier SF

Properties

DIDIER SF is an acid resistant material used for the construction of abrasion proof, chemically and thermally highly stressed linings of vessels made of either steel, concrete, glass fiber reinforced plastic. DIDIER SF bricks and tiles are also used for the lining of floors.
After the mixing, molding, drying and firing procedure, the fireclay-raw materials chosen result in a densely sintered, acid resistant "body" of high quality. It is a non toxic, non hazardous product.

Application

For most of the acid resistant ceramic brick and tile linings, the quality **Didier SF** disposes of an excellently suited characteristics profile as regards the physical properties such as porosity, water absorption, crushing strength and resistance to thermal fluctuations.
The material disposes of a vast chemical resistance against acids, hydrocarbons and saline solutions. It is not resistant against hydrofluoric acid and only conditionally resistant against alkaline media.

Chemical Analysis (Typical Values)		
Aluminum Oxide Al_2O_3	Al_2O_3	23,0 %
Silica	SiO_2	71,0 %
Potassium Oxide	K_2O	2,2 %
Titanium Oxide	TiO_2	1.2 %
Ferric Oxide	Fe_2O_3	1,2 %
Lime	CaO	0,1 %
Sodium Oxide, Magnesia	Na_2O/MgO	0,6 % / 0,4%

Physical Properties (Typical Values) (valid for standard sizes, thickness of bricks 50 - 80 mm)		
Bulk Density	2,15 g/cm 2,15 g/cm	DIN EN 993-1 ASTM C-830
Open Porosity	11 Vol.-% 11 Vol.-%	DIN EN 993-1 ASTM C-830
Water Absorption	5 wt-% 5 wt-%	DIN EN 993-1 ASTM C-830
Modulus of Rupture	17.2 MPa 2500 psi	DIN EN 993-6 ASTM C-133
Modulus of Elasticity	42000 MPa $6*10^6$ psi	ASTM C-885
Resistance to Thermal Fluctuations (450GC 20GC)	7 Cycles	DIN 51068
Crushing Strength (at 23GC)	100 MPa 14500 psi	DIN EN 993-5 ASTM C-133
Acid Solubility	1,1 wt-% 4,4 wt-%	DIN EN 993-16 ASTM C-279
Thermal Conductivity 200GC/400GC	1.0 / 1,2 W/mK use 1,4 W/mk for Heat Transfer Calc. 6,9 / 8,3 BTU*in/(hr*ft	DIN EN 993-14/15 ASTM C-202
Thermal Expansion	$5 *10^{-6}$ 1/K $3,3*10^{-6}$ in/(in*GF)	DIN 51045-1 -
Chemical Expansion	0,7 % (210GC, 10% H_2SO_4) 0,15 % (150GC, 10% H_2SO_4)	DSB Procedure
Abrasion Resistance	11,2 cm	DIN 52108

Due to the manufacturing method there might be deviations concerning the physical properties. For this reason, the characteristic data of our standard products can be applied only conditionally for our shaped bricks. For further information, please see our catalogue "Acid resistant bricks, tiles and shapes".

I. Technical Information

I.1. Type of Material

Stellakitt AE is a 3-component bedding and pointing mortar on potassium silicate basis containing a special filler and a halogen-free hardener. It can be applied as an embedding and pointing mortar as well as a casting or injection mortar.

I.2. Properties and Fields of Use

Stellakitt AE is particularly recommended for embedding and pointing ceramic tiles, bricks and shapes. Unlike usual silicate mortars, Stellakitt AE can also be used not only in the acid range but also in the neutral range, i.e. out of doors. This mortar is used for the lining of floorings, in vessels, basins, tanks, autoclaves (especially in the vapour zone) as well as for brick linings in towers and chimneys. Due to the fact that Stellakitt AE is halogen-free, corrosion at lead or on chrome nickel steel is thus avoided.
Stellakitt AE can also be applied as a casting or an injection mortar.
.

I.3. Physical Data

Bulk density:	g/cm³	2.15/2.13
Compressive strength:	N/mm²	70
Tensile strength:	N/mm²	7
Modulus of elasticity:	N/mm²	$3 \cdot 10^4$
Abrasion resistance	cm³/50m²	13.3
Thermal conductivity:	W/m•K	
at 25°C		2.25
at 200°C		1.75
Max. application temperature:	° C	450
Bond on ceramics:	N/mm²	≥ 3.7
Bond on concrete	> inherent strength of concrete	

I.4 Chemical Resistance

• Mineral oils	+
• Gasoline	+
• Benzene, toluene, xylene	+/+/+
• Alcohols	+
• Esters and ketones	+/+
• Methylene chloride	+
• Trichlorethylene	+
• Aldehydes	+
• Hydrochloric acid up to 37 %	+
• Sulphuric acid up to 96 %	+
• Nitric acid up to 65 %	+
• Chromic acid up to 30 %	+
• Hydrofluoric acid	-
• Formic, acetic and lactic acid	+/+/+
• Vegetable and animal oil and fat	+
• Sodium and potassium lye	-
• Chlorine bleaching	-
• Ammonia	o
• Aliphatic amines	o
• Hydrogen peroxide	o

+ = resistant at 20 °C
0 = temporarily resistant
- = not resistant

All information contained in this Product Information sheet is based on the present state of our knowledge and practical experience. All data are approximate values for guidance only. A legally binding warranty of certain characteristics or the suitability for a certain purpose of use cannot be derived from this.

This issue replaces all previous versions.

We wish to point out that the offered materials are special products, the application of which requires special knowledge and experience.

II. Application

II.1. Preconditions

Stellakitt AE can be applied on the following substrates:

- Concrete, cast plaster, plaster (solid, clean, free from oil, grease or other separating substances). Before application preferably humidify substrate, however not until saturation.
- Steel surfaces (shotblasted and provided with a sanded epoxy resin primer coat against rust formation)
- Impervious membranes (sanded) with quartz sand 0.5 – 1.0 mm.
- Lead linings
- Ceramic tile or brick layers (to be clean, dry),

Thickness of bed joint or grouting space, resp. : 5 to 8 mm
Width of joints : 5 to 8 mm
Width of hollow joints : 6 to 8 mm
Depth of hollow joints : at least 15 mm

The ambient temperature as well as the temperatures of the substrate and the mortar compounds should range between +10 up to 40°C during application. Mortars curing at temperatures below +10°C do neither have the usually required chemical resistance nor the necessary strength.

II.2 Components

Designation	Aspect	Unit	Storage Conditions	Storage Life
Stellakitt AE Solution I	colorless liquid	PE can	+ 5 - + 30 °C	1 year
Stellakitt AE Solution II	colorless liquid	PE can	+ 5 - + 30 °C	1 year
Stellakitt AE Powder	gray powder	bag	dry	1 year

Safety precautions: Please respect the safety data sheets for transport, storage and application.

II.3 Mixing ratio and pot life

Material	Components	Measuring vessel in liter	Mixing ratio in kg	kg / 1 L	weight per liter	Pot life
Stellakitt AE	Stellakitt AE Solution I	2.000	2.850	0.215	2.15 kg	30 - 60 min.
	Stellakitt AE Solution II	0.600	0.600	0.045		
	Stellakitt AE Powder	19.500	25.000	1.890		
Stellakitt AE **casting and injection mortar**	Stellakitt AE Solution I	2,632	3,750	0,273	2,13 kg	30 - 60 min.
	Stellakitt AE Solution II	0,500	0,500	0,037		
	Stellakitt AE Powder	19,500	25,000	1,820		

- Put Stellakitt AE Solution I into a mixing vessel
- Add Stellakitt AE Solution II **without mixing (the solutions cannot be mixed)!!!**
- Add Stellakitt AE Powder and stir up thoroughly (abt. 3 min). During the mixing process the consistency of the mixture changes slowly from crumbly to mortar.

II.4 Application

Due to the lack of adhesive strength (in comparison with a synthetic resin bonded mortar) the application is similar to the application of a cement. The mortar is to be applied uniformly, free from cavities or blowholes.

The casting and injection compound can be applied by casting or by means of an injection gun.

Already setting, consistent mortar must not be made smoother and easier to apply ***neither by adding solution nor by adding water.***
Do not smooth the joints with water and absolutely avoid any contact with water during the curing process.

Working tools:

measuring and mixing vessels (drums), drilling machine with agitating blade (on construction sites: Rotex mixer), trowel, pointing tools, brushes, site danger signs.

Cleaning of working tools:

Rinse with water

Subsequent treatment of Stellakitt AE:

A subsequent treatment as it is usually necessary for water glass bonded mortars or in case of longer curing periods is not required.

Safety remarks:

- Instructions as per § 14 of GefahrstoffV (Danger Regulations) and TRGS 507.
- Safety data sheets
- Accident precautions issued by the Liability Insurance Association for the Chemical Industries (Germany)
- Danger symbols and safety precautions on the packing labels.
- No fire / no smoking.
- Sufficient aeration
- Avoid eye and skin contact (wear goggles and gloves)
- Clean hands with skin protective soap.

II.5 Putting into service

8 to 10 days after completion at the earliest. During this period avoid any contact of the lining with water.

After appr. 1 month the mortar will have cured completely.