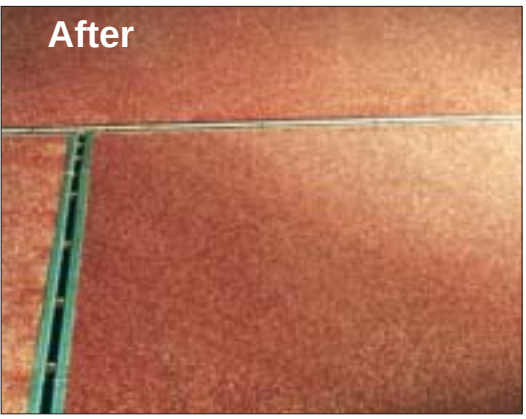
LEYCO®-STAC

TOUGH AND HIGH TEMPERATURE CHEMICAL RESISTANT COATING ON CONCRETE, IRON AND NON IRON SURFACES

LEYCOCHEM LEYDE GMBH, D - 50976 COLOGNE / GERMANY, P.O.Box 50 16 27
TEL: +49 2236 966 000, FAX: + 49 2236 966 0011, leycochem@leyde.com, www.leyde.com

LEYCO®-STAC

Heavy duty, non shrink, high temperature and chemical resistant, vinyl ester based coating and repairing system on concrete, iron and non iron surfaces



The ultimate advantages

- **extremly resitant**
  aggressive chemicals: pH 1 - 13
  temperature: -40 to +180 °C
  abrasion: n.m.
  impact resist: 13 kJ/m²
- **good protection**
  against diffusion and UV-degradation
- **non-shrink curing**
  allows „unlimite“ mono-layer thickness without creation of tension
- **easy to use**
  standard 1 layer, no primer
- **excellent bonding**
  rupture concrete
- **excellent thermal expansion**
  coefficient comparable with concrete (17 x 10^{-6})
- **rapid (re)utilistion**
  installed in a few hours, walkover after ± 3h, light service after ± 3h, full service after ± 3 days
- **hygienic and safe**
  anti-skid, easy to clean, inert, almost odourless

LeycoChem LEYDE

www.leyde.com

LeycoChem LEYDE

STAC — Systems Technologies for Anti Corrosion

Offer Systems for the optimal protection of steel and concrete constructions, which can be exposed to strong chemical, thermal and mechanical aggression.

Why STAC :

- ☒ **STAC** Systems are more resistant than the classic systems based on epoxy and/or polyurethane resins.
- ☒ **STAC** Systems are mainly based on VE (Vinylesters). The vinylesters are the most resistant resins in the polyester family. They are resistant against almost all acids, bases and solvents, up to high temperatures (100 °C and more, dependant of the concentrations and other parameters).
- ☒ **STAC** has created its vinylesters is such a way that they cure **without shrink !**

  *Ordinarily, the **classic VE** have a shrink at cure of 8 to 15%, what makes it practically impossible to create mortars or other monolitical systems without using fillers to compensate that shrink (ea. glass mats).*

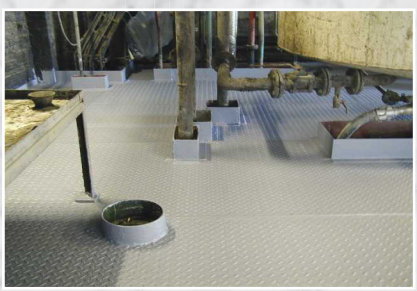
  The VE from **STAC** :
  - × can be applied in one layer, without occurrence of tensions due to shrink (even without fillers);
  - × have a thermal expansion comparable with that of concrete: tension-free at long term;
  - × are impermeable and hydrophobic (has a positive effect on the lifetime, the resistance and the cleanability);
  - × have an extraordinary resistance against chemical, thermal and mechanical corrosion;
  - × do not need joints (except topping structural dilatation joint in the substrate).
- ☒ **STAC** guarantees an optimal quality :
  - × the raw materials are the most performing, coming from suppliers with the highest reputation;
  - × the production with quality assurance system (in line with the strict rules of ISO 9001);
  - × the application by professional applicators, approved by **STAC**.

System type	V-Systems	PU-Systems
Mortar systems	× STACRETE-V1 & V2	× STACRETE-PU1
Lining systems	× STACLINE-V1 & V2	
Laminar-scattered systems	× STACLAM-V1 & V2	
Coating systems	× STACOAT-V1 & V2	
Anti-static Coating systems	× STACOAT-V1 & V2 AS	

Remark : **STAC-V1** has a Food Approval!

References per industry :

Food : Campina, Danone, Hendrickx, Köchen Meister Trockels, La Maison de Bon Café, Suikerunie, Unilever;
Auto : General Motors, Toyota;
Chemical : Agfa Gevaert, AKZO, BASF, Bayer, Bayer Rubber, CRI (Shell), Cytec, Hercules, Hycail, Ineos (via Dupont), Kemira, Oiltanking, Quest, Roam Chemie, Sluys, Solvay, Trans Furan Chemicals, Transpac, UCB, Vopak;
Metallurgy : BGT, Caterpillar, Eurogalva, Gantois, Mecafi, MVT, Norddeutsche Affinerie, Thyssen Krupp, Verbruggen;
Utilities : AVR, Indaver, Distrigas, waste water stations: Lyon, Marseille, Dunkerque;
Others : Parenco, Fabelta, Esselte, Grandorado, Mines de Jouac, SNCB, etc...



LeycoChem LEYDE

Project : **Akzo**

Substrate : **Concrete ; Drain**

Chemicals : **Phosphorous acid, NaOH, HCl, $ReCl_3$**

Temperature : **max 50 °C**

*Let **STAC**kle those corrosion problems!*

Application : **July 2002**

Photos : **September 2002**

LeycoChem LEYDE

Project : **Akzo**

Substrate : **Concrete ; Waste water basin**

Chemicals : **Process water**

Temperature : **Ambient**

LEYCO-STACLINE-V2

*Let **STAC**kle those corrosion problems!*

Application : **July 2002**

Photos : **September 2002**

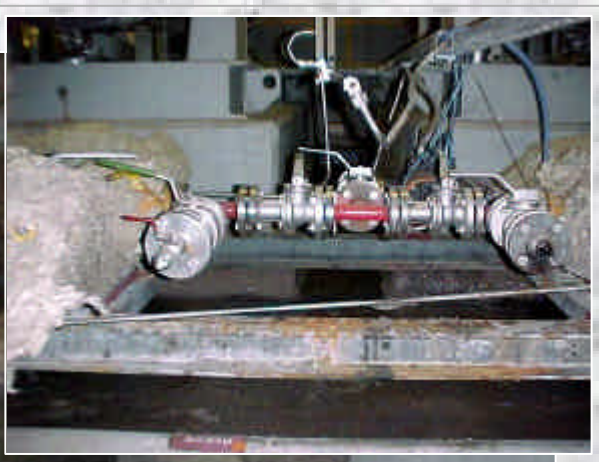
LeycoChem LEYDE

Project : **BASF**

Substrate : **Concrete ; Retention basin**

Chemicals : **Acrylic acids, methacrylate**

Temperature : **Ambient**



LEYCO-STACRETE-V2

*Let **STAC**kle those corrosion problems!*

Application : **September 2001**

LeycoChem LEYDE

Project : **Vopak (after 1 year exposure)**

Substrate : **Steel ; Storage tank**

Chemicals : **Fatty acids (C8 to C18), methyl esters (C10 to C18), alcohols & glycerin**

Temperature : **max 80 °C**

LEYCO-STACOAT-V1

*Let **STAC**kle those corrosion problems!*

Application : **January 2001**

Photos : **January 2002**

LeycoChem LEYDE

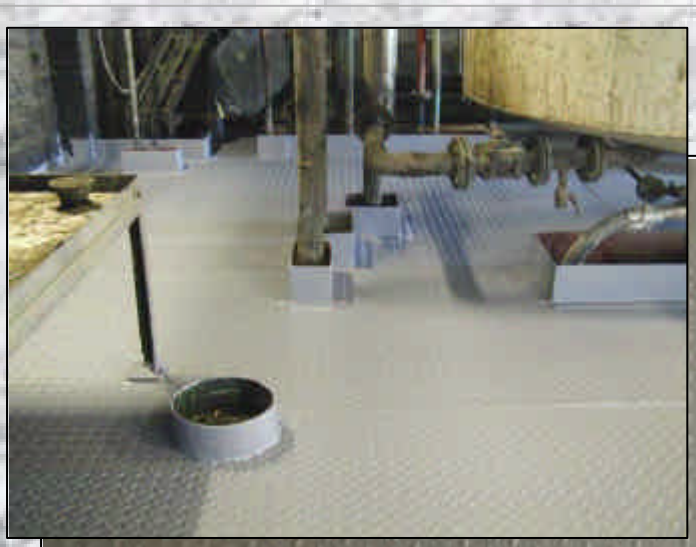
Project : **UCB**

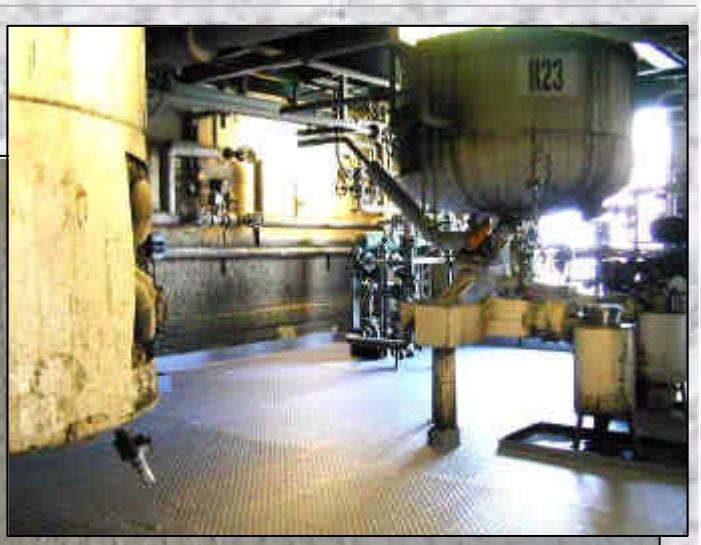
Substrate : **Steel ; Platform**

Chemicals : *Solvents :* **Acetone, toluene, ethyl acetate**

Reagents : **TDI, IPDI, epoxy resins, acryl acids, polyols**

Temperature : **High pressure rinsing** (60 °C), **yearly cleaning** (90 °C)





LEYCO-STACOAT-V2 AS

*Let **STAC**kle those corrosion problems!*

Application : **August 2001**

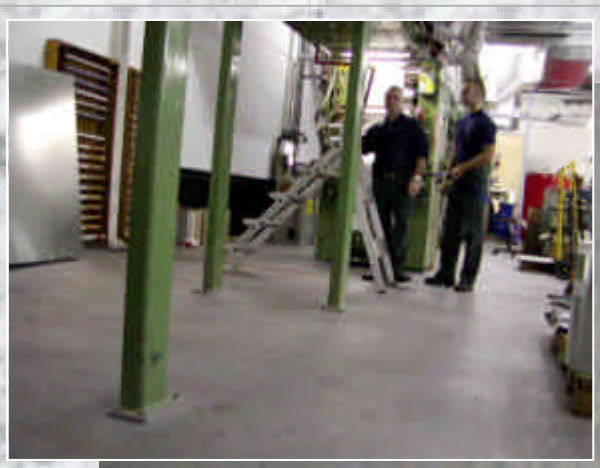
LeycoChem LEYDE

Project : **Esselte**

Substrate : **Concrete ; Production hall**

Chemicals : **Ethyl acetate, hexane, isopropyl alcohol, MEK, toluene, ammoniac**

Temperature : **Ambient**



LEYCO-STACOAT-V2 AS

*Let **STAC**kle those corrosion problems!*

Application : **May 2001**

TECHNICAL DATA SHEETS

LEYCO STACRETE V 1

LEYCO-STACRETE V 2

LEYCO-STACLINE V 1

LEYCO-STACLINE V 2

LEYCO-STACLAM V 1

LEYCO-STACLAM V 2

LEYCO-STACOAT V1

LEYCO-STACOAT V 2

LEYCO-STACPRIMER V1

and Chemical Corrosion List

LEYCO CHEMISCHE LEYDE GmbH, Industriestr. 155, D-50999 Cologne,
Phone +49 2236 966 000, Fax: +49 2236 966 00 11, leycochem@leyde.com, www.leyde.com

LEYCO-STACRETE-V1

Heavy duty, hydrophobic, non-shrink, vinyl ester based, universal mortar system

Description

LEYCO-STACRETE-V1 is an extremely resistant, hydrophobic and non-shrink, universal mortar system, based on modified vinyl ester. It is reinforced with a specific, well-balanced filler, for both horizontal (4 to 12 mm) and vertical (3 to 6 mm) applications. It protects concrete structures efficiently, over a long period, against very aggressive chemical, mechanical and thermal corrosion.

Its advantages are:

1. Non-shrink, modified vinyl ester:

- Resistant against very aggressive chemicals: pH 2-13,
- Temperature resistant from - 40 till + 150 °C,
- Resists thermal shocks (dependent of the layer thickness),
- High abrasion and impact resistance: permits heavy traffic,
- Non-shrink curing: allows "unlimited" mono-layer thickness, without creation of tension,
- Thermal expansion comparable with that of concrete: tension-free at long term.

⇨ LONG LIFE TIME

2. Easy, universal and quick application:

- Uniform and simplified mixture for both horizontal and vertical applications: 4-components,
- Consumption 5 mm mono-layer is ± 10,5 kg/m²,
- Smoothly spreading mortar: doesn't stick to the trowel and doesn't pull 'open' during flattening.

⇨ FAST CAREFREE INSTALLATION

3. Rapid (re)utilisation:

- Mono-layer system, installed in a few hours,
- Walkover after ± 3 hours, light service after ± 12 hours, full service after ± 3 days.

⇨ MINIMAL PRODUCTION STOP

4. Hygienic and secure:

- Anti-skid,
- Inert,
- Hydrophobic: impermeable and easy to clean,
- Minimal amount of joints (topping structural concrete joints).

⇨ THE SAFE CONCRETE PROTECTION FOR ALL INDUSTRIES

Application fields

Concrete floors, walls, drains, retention basins, sockles, etc… exposed to heavy traffic and/or abrasion, attacked by aggressive chemicals and/or high temperatures, are treated with LEYCO-STACRETE-V1. Especially for strong inorganic bases (pH > 12) is LEYCO-STACRETE-V1 preferred above LEYCO-STACRETE-V2.

Commonly used in a wide range of industries: chemical, petrochemical, steel, fertiliser, pulp and paper, utilities, etc…

In the food industry, installation has to be done preferably during shutdowns (minimum 4 days), due to styrene emission during and just after the application.

Properties cured LEYCO-STACRETE-V1

Physical characteristics

Under standard conditions, a.o. 20 days curing at 20 °C.

Density	**2,1** kg/dm³
Compression strength	**90** MPa
Tensile strength	**20** MPa
Flexural strength	**21** MPa
Elasticity Modulus	**20** GPa
Adhesion to concrete	**Rupture concrete**
Abrasion resistance (Taber)	**80** mg
Thermal expansion coefficient	**17 x 10^{-6}**
Water absorption	**0** mg
Temperature resistance	**- 40 to + 150** °C
Standard colours	**Neutral, Grey, Beige, Red, Green**

Norms, test methods and results are available on demand.
On customer request, other colours are available.

Chemical resistance

LEYCO-STACRETE-V1 resists very aggressive chemicals at high concentrations and high temperatures.

The table below gives a few typical examples of potential exposure to chemicals at certain concentrations up to a maximum temperature.

INORGANIC CHEMICALS			Conc.	Temp.
ACIDS	Hydrochloric acid	HCl	20 %	90 °C
			37 %	45 °C
	Nitric acid	HNO_3	15 %	65 °C
			20 %	50 °C
			30 %	40 °C
	Phosphoric acid	H_3PO_4	All	90 °C
	Sulphuric acid	H_2SO_4	50 %	90 °C
			70 %	80 °C
			80 %	40 °C
BASES	Ammonium hydroxide	NH_4OH	20 %	60 °C
	Sodium carbonate	Na_2CO_3	35 %	60 °C
	Sodium hydroxide	NaOH	25 %	60 °C
			50 %	90 °C
SALTS	Sodium chloride	NaCl	All	90 °C
	Sodium nitrate	$NaNO_3$	All	90 °C
	Sodium phosphate	Na_3PO_4	All	90 °C
	Sodium sulphate	Na_2SO_4	All	90 °C
ORGANIC CHEMICALS			**Conc.**	**Temp.**
ACIDS	Acetic acid	H_3C-COOH	75 %	60 °C
	Fatty acids	> C12	All	90 °C
SALTS	Ammonium acetate	CH_3COONH_4	All	45 °C
	Sodium acetate	CH_3COONa	All	90 °C
OTHERS	Crude oils		100 %	90 °C
	Ethanol	C_2H_5OH	95 %	40 °C

Detailed information: LEYCO Chemical Corrosion Resistance List.

Surface conditioning

1. Surface preparation

The concrete substrate quality must be in line with the standard specifications (e.g. **moisture < 4%**, compression strength > 25 MPa, tensile strength > 1,5 MPa). Clean the surface (e.g. sandblast) until it's free of dust, oil and/or 'concrete laitance'.

2. Priming

To seal the substrate and to assure perfect adhesion, LEYCO-STACPRIMER-V1 is applied immediately after surface preparation. Dry thickness must be ± 200 µ. It's advised to scatter with dry clean quartz .

Consult the technical datasheet of LEYCO-STACPRIMER-V1.

3. Conditions during application

Standard application is possible when the surface temperature is between 10 and 25 °C and minimum 3 °C above dew point. The air humidity should be as low as possible (< 85 % RH). Measure moisture content and temperature nearby the surface to be coated.

WATER OR CONDENSATION ON THE MORTAR, BEFORE FULL POLYMERISATION, CAN PROVOKE A NON-COMPLETE CURE!

For further information, contact a LEYDE representative.

Mixing ratios

1. Resin acceleration

The anticipated resin consumption for the actual day is mixed front-end with LEYCO-STACCELerator(s). Mix ± 2 minutes with a low-speed hand mixer (± 400 rpm).

Per canister of **25** kg **LEYCO-STACRETE-V1 Resin**:

LEYCO-STACCELerator-1	10 °C	15 °C	20 °C	25 °C
Percentage	0,7 %	0,6 %	0,5 %	0,4 %
= Weight	175 g	150 g	125 g	100 g
= Volume (0,96 g/ml)	180 ml	160 ml	130 ml	100 ml
+ LEYCO-STACCELerator-3	**10 °C**	**15 °C**	**20 °C**	**25 °C**
Percentage	1,5 %	1,0 %		
= Weight	375 g	250 g		
= Volume (0,93 g/ml)	400 ml	270 ml		

LEYCO-STACCELerators AND **LEYCO-STACATalysts** MAY NEVER BE STOCKED, TRANSPORTED OR DIRECTLY MIXED TOGETHER!

For further information, contact a LEYDE representative.

2. Mortar preparation

Use an action forced pan mixer and/or a low-speed hand mixer (± 400 rpm).

Per bag of **25** kg **LEYCO-STACRETE-V Filler**:

- First pour, the accelerated LEYCO-STACRETE-V1 Resin:

LEYCO-STACRETE-V1 Resin	10 °C	15 °C	20 °C	25 °C
Percentage	17,6 %	17,1 %	16,5 %	16,1 %
= Weight	4,4 kg	4,3 kg	4,1 kg	4,0 kg
= Volume (1,04 g/ml)	4,2 liter	4,1 liter	4,0 liter	3,9 liter

- Then add, under continuous agitation, LEYCO-STACATalyst-1:

STACATalyst-1	10 °C	15 °C	20 °C	25 °C
Weight	130 g	100 g	80 g	70 g
= Volume (1,04 g/ml)	125 ml	96 ml	77 ml	67 ml

- Add further, under continuous agitation, the 25 kg LEYCO-STACRETE-V Filler and mix during ± 2 minutes.

Do not mix more products than can be applied inside the pot life. Using the above mixing ratios, the pot life is ± 25 minutes.

Application

The mortar has to be applied between 1 to 3 hours after priming (maximum after 24 hours if the primer is scattered).

LEYCO-STACRETE-V1 can be applied with:

- Steel plaster trowel,
- Screed box + steel plaster trowel.

The mortar is spread out skilfully to create a uniform surface. Depending on the anticipated corrosion impact, a mono-layer is recommended for:

- Aggres. floor corrosion (temp., chem., mech.): 5 mm,
- Very aggres. floor corrosion (incl. T-chocks): 10 mm,
- Aggressive wall corrosion: 4 mm.

The curing time is dependent of air circulation, temperature, humidity, film thickness, etc… Under standard conditions: walkover after ± 3 hours, light service after ± 12 hours, full service after ± 3 days.

For further information, contact a LEYDE representative.

Safety

See LEYCO-STACRETE-V1 components safety datasheets.

Storage

The shelf life of all products is 6 months under standard conditions: temperature between 15 and 25 °C, in dry well ventilated place, away from source of heat, ignition, oxidising (and/or reduction) agents and direct sunlight. Containers must be kept carefully sealed.

On customer request, LEYCO-STACRETE-V1 Resin can be pre-accelerated. Its shelf life is then limited to 1 month.

Packaging

- LEYCO-STACRETE-V1 Resin: 25 kg metal canister
- LEYCO-STACCELerator-1: 2 kg metal bottle
- LEYCO-STACCELerator-3: 5 kg PE bottle
- LEYCO-STACATalyst-1: 5 kg PE bottle
- LEYCO-STACRETE-V Filler: 25 kg paper bag

On customer request, large industrial containers are available.

LEYCO CHEMISCHE LEYDE GMBH
Industriestr. 155
D-50999 COLOGNE
Tel.: +49 2236 – 9 66 00-0, Fax: +49 2236 – 9 66 00 10
leycochem@leyde.com, www.leyde.com

LEYCO-STACRETE V2

Heavy duty, hydrophobic, non-shrink, vinyl ester based, universal mortar system

Description

LEYCO-STACRETE V2 is an extremely resistant, hydrophobic and non-shrink, universal mortar system, based on modified vinyl ester. It is reinforced with a specific, well-balanced filler, for both horizontal (4 to 12 mm) and vertical (3 to 6 mm) applications. It protects concrete structures efficiently, over a long period, against very aggressive chemical, mechanical and thermal corrosion.

Its advantages are:

1. Non-shrink, modified vinyl ester:

- Resistant against very aggressive chemicals: pH 1-12,
- Temperature resistant from - 40 till + 180 °C,
- Resists thermal shocks (dependent of the layer thickness),
- High abrasion and impact resistance: permits heavy traffic,
- Non-shrink curing: allows "unlimited" mono-layer thickness, without creation of tension,
- Thermal expansion comparable with that of concrete: tension-free at long term.

⇨ LONG LIFE TIME

2. Easy, universal and quick application:

- Uniform and simplified mixture for both horizontal and vertical applications: 4-components,
- Consumption 5 mm mono-layer is ± 10,5 kg/m²,
- Smoothly spreading mortar: doesn't stick to the trowel and doesn't pull 'open' during flattening.

⇨ FAST CAREFREE INSTALLATION

3. Rapid (re)utilisation:

- Mono-layer system, installed in a few hours,
- Walkover after ± 3 hours, light service after ± 12 hours, full service after ± 3 days.

⇨ MINIMAL PRODUCTION STOP

4. Hygienic and secure:

- Anti-skid,
- Inert,
- Hydrophobic: impermeable and easy to clean,
- Minimal amount of joints (topping structural concrete joints).

⇨ THE SAFE CONCRETE PROTECTION FOR ALL INDUSTRIES

Application fields

Concrete floors, walls, drains, retention basins, sockles, etc… exposed to heavy traffic and/or abrasion, attacked by aggressive chemicals and/or high temperatures, are treated with LEYCO-STACRETE V2. Especially for strong acids (pH < 2), organic bases and solvents is LEYCO-STACRETE V2 preferred above LEYCO-STACRETE-V1.

Commonly used in a wide range of industries: chemical, petrochemical, steel, fertiliser, pulp and paper, utilities, etc…

In the food industry, installation has to be done preferably during shutdowns (minimum 4 days), due to styrene emission during and just after the application.

Properties *cured LEYCO-STACRETE V2*

Physical characteristics

Under standard conditions, a.o. 20 days curing at 20 °C.

Density	**2,1** kg/dm³
Compression strength	**80** MPa
Tensile strength	**20** MPa
Flexural strength	**17** MPa
Elasticity Modulus	**20** GPa
Adhesion to concrete	**Rupture concrete**
Abrasion resistance (Taber)	**80** mg
Thermal expansion coefficient	**17 x 10^{-6}**
Water absorption	**0** mg
Temperature resistance	**- 40 to + 180** °C
Standard colours	**Neutral, Grey, Beige, Red, Green**

Norms, test methods and results are available on demand.
On customer request, other colours are available.

Chemical resistance

LEYCO-STACRETE V2 resists very aggressive chemicals at high concentrations and high temperatures.
The table below gives a few typical examples of potential exposure to chemicals at certain concentrations up to a maximum temperature.

INORGANIC CHEMICALS			Conc.	Temp.
ACIDS	Hydrochloric acid	HCl	20 %	100 °C
			37 %	65 °C
	Nitric acid	HNO_3	15 %	65 °C
			20 %	50 °C
			30 %	40 °C
	Phosphoric acid	H_3PO_4	All	100 °C
	Sulphuric acid	H_2SO_4	50 %	100 °C
			70 %	80 °C
			80 %	40 °C
BASES	Ammonium hydroxide	NH_4OH	20 %	65 °C
	Sodium carbonate	Na_2CO_3	35 %	80 °C
	Sodium hydroxide	NaOH	25 %	70 °C
			50 %	100 °C
SALTS	Sodium chloride	NaCl	All	100 °C
	Sodium nitrate	$NaNO_3$	All	100 °C
	Sodium phosphate	Na_3PO_4	All	100 °C
	Sodium sulphate	Na_2SO_4	All	100 °C
ORGANIC CHEMICALS			**Conc.**	**Temp.**
ACIDS	Acetic acid	H_3C-COOH	75 %	65 °C
	Fatty acids	> C12	All	100 °C
BASES	Butyl amine	C_4H_9-NH_2	50 %	25 °C
	Aniline	C_6H_7N	All	40 °C
SALTS	Ammonium acetate	CH_3COONH_4	All	45 °C
	Sodium acetate	CH_3COONa	All	100 °C
OTHERS	Crude oils		100 %	100 °C
	Ethanol	C_2H_5OH	95 %	40 °C
	Benzene	C_6H_6	100 %	35 °C
	Toluene	C_7H_8	100 %	45 °C

Detailed information: LEYCO Chemical Corrosion Resistance List.

Surface conditioning

1. Surface preparation

The concrete substrate quality must be in line with the standard specifications (e.g. **moisture < 4%**, compression strength > 25 MPa, tensile strength > 1,5 MPa). Clean the surface (e.g. sandblast) until it's free of dust, oil and/or 'concrete laitance'.

2. Priming

To seal the substrate and to assure perfect adhesion, LEYCO-STACPRIMER-V1 is applied immediately after surface preparation. Dry thickness must be ± 200 µ. It's advised to scatter with dry clean quartz .

Consult the technical datasheet of LEYCO-STACPRIMER-V1.

3. Conditions during application

Standard application is possible when the surface temperature is between 10 and 25 °C and minimum 3 °C above dew point. The air humidity should be as low as possible (< 85 % RH). Measure moisture content and temperature nearby the surface to be coated.

WATER OR CONDENSATION ON THE MORTAR, BEFORE FULL POLYMERISATION, CAN PROVOKE A NON-COMPLETE CURE!

For further information, contact a LEYDE representative.

Mixing ratios

1. Resin acceleration

The anticipated resin consumption for the actual day is mixed front-end with LEYCO-STACCELerator(s). Mix ± 2 minutes with a low-speed hand mixer (± 400 rpm).

Per canister of **25** kg **LEYCO-STACRETE V2 Resin**:

LEYCO-STACCELerator-1	10 °C	15 °C	20 °C	25 °C
Percentage	0,7 %	0,6 %	0,5 %	0,4 %
= Weight	175 g	150 g	125 g	100 g
= Volume (0,96 g/ml)	180 ml	160 ml	130 ml	100 ml
+ LEYCO-STACCELerator-3	**10 °C**	**15 °C**	**20 °C**	**25 °C**
Percentage	1,5 %	1,0 %		
= Weight	375 g	250 g		
= Volume (0,93 g/ml)	400 ml	270 ml		

LEYCO-STACCELerators AND **LEYCO-STACATalysts** MAY NEVER BE STOCKED, TRANSPORTED OR DIRECTLY MIXED TOGETHER!

For further information, contact a LEYDE representative.

2. Mortar preparation

Use an action forced pan mixer and/or a low-speed hand mixer (± 400 rpm).

Per bag of **25** kg **LEYCO-STACRETE-V Filler**:

- First pour, the accelerated LEYCO-STACRETE V2 Resin:

LEYCO-STACRETE V2 Resin	10 °C	15 °C	20 °C	25 °C
Percentage	17,6 %	17,1 %	16,5 %	16,1 %
= Weight	4,4 kg	4,3 kg	4,1 kg	4,0 kg
= Volume (1,06 g/ml)	4,2 liter	4,1 liter	3,9 liter	3,8 liter

- Then add, under continuous agitation, LEYCO-STACATalyst-1:

STACATalyst-1	10 °C	15 °C	20 °C	25 °C
Weight	130 g	100 g	80 g	70 g
= Volume (1,04 g/ml)	125 ml	96 ml	77 ml	67 ml

- Add further, under continuous agitation, the 25 kg LEYCO-STACRETE-V Filler and mix during ± 2 minutes.

Do not mix more products than can be applied inside the pot life. Using the above mixing ratios, the pot life is ± 25 minutes.

Application

The mortar has to be applied between 1 to 3 hours after priming (maximum after 24 hours if the primer is scattered).

LEYCO-STACRETE V2 can be applied with:

- Steel plaster trowel,
- Screed box + steel plaster trowel.

The mortar is spread out skilfully to create a uniform surface. Depending on the anticipated corrosion impact, a mono-layer is recommended for:

- Aggres. floor corrosion (temp., chem., mech.): 5 mm,
- Very aggres. floor corrosion (incl. T-chocks): 10 mm,
- Aggressive wall corrosion: 4 mm.

The curing time is dependent of air circulation, temperature, humidity, film thickness, etc… Under standard conditions: walkover after ± 3 hours, light service after ± 12 hours, full service after ± 3 days.

For further information, contact a LEYCO representative.

Safety

See LEYCO-STACRETE V2 components safety datasheets.

Storage

The shelf life of all products is 6 months under standard conditions: temperature between 15 and 25 °C, in dry well ventilated place, away from source of heat, ignition, oxidising (and/or reduction) agents and direct sunlight. Containers must be kept carefully sealed.

On customer request, LEYCO-STACRETE V2 Resin can be pre-accelerated. Its shelf life is then limited to 1 month.

Packaging

- LEYCO-STACRETE V2 Resin: 25 kg metal canister
- LEYCO-STACCELerator-1: 2 kg metal bottle
- LEYCO-STACCELerator-3: 5 kg PE bottle
- LEYCO-STACATalyst-1: 5 kg PE bottle
- LEYCO-STACRETE-V Filler: 25 kg paper bag

On customer request, large industrial containers are available.

LEYCO CHEMISCHE LEYDE GMBH
Industriestr. 155
D-50999 COLOGNE
Tel.: +49 2236 – 9 66 00-0, Fax: +49 2236 – 9 66 00 10
leycochem@leyde.com, www.leyde.com

LEYCO-STACLINE-V1

Heavy duty, hydrophobic, non-shrink, vinyl ester based, universal glass mat system

Description

LEYCO-STACLINE-V1 is an extremely resistant, hydrophobic and non-shrink, universal glass mat system, based on modified vinyl ester. It is reinforced with specific glass mats, for both horizontal and vertical applications (2 to 4 mm). It protects concrete structures efficiently, over a long period, against very aggressive chemical, mechanical and thermal corrosion.

Its advantages are:

1. Non-shrink, modified vinyl ester:

- Resistant against very aggressive chemicals: pH 2-13,
- Temperature resistant from - 40 till + 150 °C,
- Resists thermal shocks (dependent of the layer thickness),
- High abrasion and impact resistance,
- Non-shrink curing: allows "unlimited" layer thickness, without creation of tension,
- Crack bridging properties,
- Thermal expansion comparable with that of concrete: tension-free at long term.

⇨ LONG LIFE TIME

2. Easy and quick application:

- Simplified mixture: 3-components,
- Resin consumption for 3 mm system is ± 3 kg/m²,
- Smooth application.

⇨ FAST CAREFREE INSTALLATION

3. Rapid (re)utilisation:

- Multi-layer system, installed in a few hours,
- Walkover after ± 3 hours, light service after ± 12 hours, full service after ± 3 days.

⇨ MINIMAL PRODUCTION STOP

4. Hygienic and secure:

- Inert,
- Hydrophobic: impermeable and easy to clean,
- Smooth surface guarantees compliant cleaning,
- Minimal styrene emission (odour almost absent),
- Minimal amount of joints (topping structural concrete joints).

⇨ THE SAFE CONCRETE PROTECTION FOR ALL INDUSTRIES

Application fields

Concrete floors, walls, drains, retention basins, sockles, etc… exposed to abrasion, attacked by aggressive chemicals and/or high temperatures, are treated with LEYCO-STACLINE-V1. Especially for strong inorganic bases (pH > 12) is LEYCO-STACLINE-V1 preferred above LEYCO-STACLINE-V2.

Commonly used in a wide range of industries: chemical, petrochemical, steel, fertiliser, pulp and paper, utilities, etc…

In the food industry, installation has to be done preferably during shutdowns (minimum 4 days), due to styrene emission during and just after the application.

Properties cured LEYCO-STACLINE-V1

Physical characteristics

Under standard conditions, a.o. 20 days curing at 20 °C.

Density	**1,4** kg/dm³
Barcol hardness	**40**
Tensile strength	**90** MPa
Tensile modulus	**6** GPa
Elongation at break	**2 %**
Flexural strength	**140** MPa
Flexural modulus	**5** GPa
Adhesion to concrete	**Rupture concrete**
Izod impact resistance	**95** KJ/m²
Thermal expansion coefficient	**30 x 10^{-6}**
Water absorption	**0** mg
Temperature resistance	**- 40 to + 150** °C
Standard colours	**Grey, Beige, Red, Green, White**

Norms, test methods and results are available on demand. On customer request, other colours are available.

Chemical resistance

LEYCO-STACLINE-V1 resists very aggressive chemicals at high concentrations and high temperatures.

The table below gives a few typical examples of potential exposure to chemicals at certain concentrations up to a maximum temperature.

INORGANIC CHEMICALS			Conc.	Temp.
ACIDS	Hydrochloric acid	HCl	20 %	90 °C
			37 %	45 °C
	Nitric acid	HNO_3	15 %	65 °C
			20 %	50 °C
			30 %	40 °C
	Phosphoric acid	H_3PO_4	All	90 °C
	Sulphuric acid	H_2SO_4	50 %	90 °C
			70 %	80 °C
			80 %	40 °C
BASES	Ammonium hydroxide	NH_4OH	20 %	60 °C
	Sodium carbonate	Na_2CO_3	35 %	60 °C
	Sodium hydroxide	NaOH	25 %	60 °C
			50 %	90 °C
SALTS	Sodium chloride	NaCl	All	90 °C
	Sodium nitrate	$NaNO_3$	All	90 °C
	Sodium phosphate	Na_3PO_4	All	90 °C
	Sodium sulphate	Na_2SO_4	All	90 °C
ORGANIC CHEMICALS			**Conc.**	**Temp.**
ACIDS	Acetic acid	H_3C-COOH	75 %	60 °C
	Fatty acids	> C12	All	90 °C
SALTS	Ammonium acetate	CH_3COONH_4	All	45 °C
	Sodium acetate	CH_3COONa	All	90 °C
OTHERS	Crude oils		100 %	90 °C
	Ethanol	C_2H_5OH	95 %	40 °C

Detailed information: LEYCO Chemical Corrosion Resistance List.

Surface conditioning

1. Surface preparation

The concrete substrate quality must be in line with the standard specifications (e.g. **moisture < 4%**, compression strength > 25 MPa, tensile strength > 1,5 MPa). Clean the surface (e.g. sandblast) until it's free of dust, oil and/or 'concrete laitance'.

2. Priming

To seal the substrate and to assure perfect adhesion, LEYCO-STACPRIMER-V1 is applied immediately after surface preparation. Dry thickness must be ± 200 µ.
See technical datasheet LEYCO-STACPRIMER-V1.

3. Conditions during application

Standard application is possible when the surface temperature is between 10 to 25 °C and minimum 3 °C above dew point. The air humidity should be as low as possible (< 85 % RH). Measure moisture content and temperature nearby the surface to be coated.

WATER OR CONDENSATION ON THE COATING, BEFORE FULL POLYMERISATION, CAN PROVOKE A NON-COMPLETE CURE!

For further information, contact a LEYDE representative.

Mixing ratios

1. Resin acceleration

The anticipated resin consumption for the actual day is mixed front-end with LEYCO-STACCELerator(s). Mix ± 2 minutes with a low-speed hand mixer (± 400 rpm).

Per canister of **25** kg **LEYCO-STACLINE-V1 Resin**:

LEYCO-STACCELerator-1	10 °C	15 °C	20 °C	25 °C
Percentage	0,7 %	0,6 %	0,5 %	0,4 %
= Weight	175 g	150 g	125 g	100 g
= Volume (0,96 g/ml)	180 ml	160 ml	130 ml	100 ml
+ LEYCO-STACCELerator-3	**10 °C**	**15 °C**	**20 °C**	**25 °C**
Percentage	1,5 %	1,0 %		
= Weight	375 g	250 g		
= Volume (0,93 g/ml)	400 ml	270 ml		

For further information, contact a LEYDE representative.

2. Coating preparation

Mix for ± 2 minutes the accelerated resin with LEYCOSTACATalyst-1. Use a low-speed hand mixer (± 400 rpm). Do not mix more products than can be applied inside the pot life. Using the indicated mixing ratios, the pot life is ± 25 minutes.

Per canister of **25** kg **LEYCO-STACLINE-V1 Resin** (accelerated):

LEYCO-STACATalyst-1	10 °C	15 °C	20 °C	25 °C
Percentage	3,0 %	2,5 %	2,0 %	1,8 %
= Weight	750 g	625 g	500 g	450 g
= Volume (1,04 g/ml)	720 ml	600 ml	480 ml	430 ml

LEYCO-STACCELerators AND **LEYCO-STACATalysts** MAY NEVER BE STOCKED, TRANSPORTED OR DIRECTLY MIXED TOGETHER!

Application

The standard application is continuous, making use of:
- 2 powder glass mats of 300 g/m²,
- 1 C-glass veil of 30 g/m².

Roll resin on the primed surface: ± 400 g/m².
Press herein the 1st glass mat (e.g. LEYCO-STACMAT-300) and impregnate it completely with resin: ± 600 g/m².
Treat with a de-aeration roll.

Press the 2nd glass mat (e.g. LEYCO-STACMAT -300) in the wet resin and impregnate it completely with resin: ± 1.000 g/m².
Treat with a de-aeration roll.

To obtain a completely smooth surface, a C-glass veil (e.g. LEYCO-STACMAT -30) is pressed in the wet resin and treated with a de-aeration roll. Roll finally the last resin layer over the veil: ± 500 g/m².

Inspect with a spark test (1MV/mm).

The curing time is dependent of air circulation, temperature, humidity, layer thickness, etc… Under standard conditions: walkover after ± 3 hours, light service after ± 12 hours, full service after ± 3 days.

Depending of the anticipated service, the desired aspect, the condition of the concrete and the practical constraints during the application, the applicator will use:
- *1,2 or 3 glass mats of 300 or 450 g/m²,*
- *0,1 or 2 glass veils,*
- *Continuous or discontinuous application,*
- *Post-curing (advised).*

For further information, contact a LEYDE representative.

Safety

See LEYCO-STACLINE-V1 components safety datasheets.

Storage

The shelf life of all products is 6 months under standard conditions: temperature between 15 and 25 °C, in dry well ventilated place, away from source of heat, ignition, oxidising (and/or reduction) agents and direct sunlight. Containers must be kept carefully sealed.

On customer request, LEYCO-STACLINE-V1 Resin can be pre-accelerated. Its shelf life is then limited to 1 month.

Packaging

- LEYCO-STACLINE-V1 Resin: 25 kg metal canister
- LEYCO-STACCELerator-1: 2 kg metal bottle
- LEYCO-STACCELerator-3: 5 kg PE bottle
- LEYCO-STACATalyst-1: 5 kg PE bottle
- *LEYCO-STACMAT-300: ± 60 kg roll*
- *LEYCO-STACMAT-30: ± 9 kg roll*

On customer request, large industrial containers are available.
LEYCO-STACMATs are optional.

LEYCO CHEMISCHE LEYDE GMBH
Industriestr. 155
D-50999 COLOGNE
Tel.: +49 2236 – 9 66 00-0,
Fax: +49 2236 – 9 66 00 10
leycochem@leyde.com, www.leyde.com

LEYCO-STACLINE-V2

Heavy duty, hydrophobic, non-shrink, vinyl ester based, universal glass mat system

Description

LEYCO-STACLINE-V2 is an extremely resistant, hydrophobic and non-shrink, universal glass mat system, based on modified vinyl ester. It is reinforced with specific glass mats, for both horizontal and vertical applications (2 to 4 mm). It protects concrete structures efficiently, over a long period, against very aggressive chemical, mechanical and thermal corrosion.

Its advantages are:

1. Non-shrink, modified vinyl ester:

- Resistant against very aggressive chemicals: pH 1-12,
- Temperature resistant from - 40 till + 180 °C,
- Resists thermal shocks (dependent of the layer thickness),
- High abrasion and impact resistance,
- Non-shrink curing: allows "unlimited" layer thickness, without creation of tension,
- Crack bridging properties,
- Thermal expansion comparable with that of concrete: tension-free at long term.

⇨ LONG LIFE TIME

2. Easy and quick application:

- Simplified mixture: 3-components,
- Resin consumption for 3 mm system is ± 3 kg/m²,
- Smooth application.

⇨ FAST CAREFREE INSTALLATION

3. Rapid (re)utilisation:

- Multi-layer system, installed in a few hours,
- Walkover after ± 3 hours, light service after ± 12 hours, full service after ± 3 days.

⇨ MINIMAL PRODUCTION STOP

4. Hygienic and secure:

- Inert,
- Hydrophobic: impermeable and easy to clean,
- Smooth surface guarantees compliant cleaning,
- Minimal styrene emission (odour almost absent),
- Minimal amount of joints (topping structural concrete joints).

⇨ THE SAFE CONCRETE PROTECTION FOR ALL INDUSTRIES

Application fields

Concrete floors, walls, drains, retention basins, sockles, etc… exposed to abrasion, attacked by aggressive chemicals and/or high temperatures, are treated with LEYCO-STACLINE-V2. Especially for strong acids (pH < 2), organic bases and solvents is LEYCO-STACLINE-V2 preferred above LEYCO-STACLINE-V1.

Commonly used in a wide range of industries: chemical, petrochemical, steel, fertiliser, pulp and paper, utilities, etc…

In the food industry, installation has to be done preferably during shutdowns (minimum 4 days), due to styrene emission during and just after the application.

Properties cured LEYCO-STACLINE-V2

Physical characteristics

Under standard conditions, a.o. 20 days curing at 20 °C.

Density	**1,4** kg/dm³
Barcol hardness	**40**
Tensile strength	**85** MPa
Tensile modulus	**6** GPa
Elongation at break	**2 %**
Flexural strength	**130** MPa
Flexural modulus	**5** GPa
Adhesion to concrete	**Rupture concrete**
Izod impact resistance	**95** KJ/m²
Thermal expansion coefficient	**30 x 10^{-6}**
Water absorption	**0** mg
Temperature resistance	**- 40 to + 180** °C
Standard colours	**Grey, Beige, Red, Green, White**

Norms, test methods and results are available on demand. On customer request, other colours are available.

Chemical resistance

LEYCO-STACLINE-V2 resists very aggressive chemicals at high concentrations and high temperatures.
The table below gives a few typical examples of potential exposure to chemicals at certain concentrations up to a maximum temperature.

INORGANIC CHEMICALS			Conc.	Temp.
ACIDS	Hydrochloric acid	HCl	20 %	100 °C
			37 %	65 °C
	Nitric acid	HNO_3	15 %	65 °C
			20 %	50 °C
			30 %	40 °C
	Phosphoric acid	H_3PO_4	All	100 °C
	Sulphuric acid	H_2SO_4	50 %	100 °C
			70 %	80 °C
			80 %	40 °C
BASES	Ammonium hydroxide	NH_4OH	20 %	65 °C
	Sodium carbonate	Na_2CO_3	35 %	80 °C
	Sodium hydroxide	NaOH	25 %	70 °C
			50 %	100 °C
SALTS	Sodium chloride	NaCl	All	100 °C
	Sodium nitrate	$NaNO_3$	All	100 °C
	Sodium phosphate	Na_3PO_4	All	100 °C
	Sodium sulphate	Na_2SO_4	All	100 °C
ORGANIC CHEMICALS			**Conc.**	**Temp.**
ACIDS	Acetic acid	H_3C-COOH	75 %	65 °C
	Fatty acids	> C12	All	100 °C
BASES	Butyl amine	C_4H_9-NH_2	50 %	25 °C
	Aniline	C_6H_7N	All	40 °C
SALTS	Ammonium acetate	CH_3COONH_4	All	45 °C
	Sodium acetate	CH_3COONa	All	100 °C
OTHERS	Crude oils		100 %	100 °C
	Ethanol	C_2H_5OH	95 %	40 °C
	Benzene	C_6H_6	100 %	35 °C
	Toluene	C_7H_8	100 %	45 °C

Detailed information: LEYDE Chemical Corrosion Resistance List.

Surface conditioning

1. Surface preparation

The concrete substrate quality must be in line with the standard specifications (e.g. **moisture < 4%**, compression strength > 25 MPa, tensile strength > 1,5 MPa). Clean the surface (e.g. sandblast) until it's free of dust, oil and/or 'concrete laitance'.

2. Priming

To seal the substrate and to assure perfect adhesion, LEYCO-STACPRIMER-V1 is applied immediately after surface preparation. Dry thickness must be ± 200 µ.
See technical datasheet LEYCO-STACPRIMER-V1.

3. Conditions during application

Standard application is possible when the surface temperature is between 10 to 25 °C and minimum 3 °C above dew point. The air humidity should be as low as possible (< 85 % RH). Measure moisture content and temperature nearby the surface to be coated.

WATER OR CONDENSATION ON THE COATING, BEFORE FULL POLYMERISATION, CAN PROVOKE A NON-COMPLETE CURE!

For further information, contact a STAC representative.

Mixing ratios

1. Resin acceleration

The anticipated resin consumption for the actual day is mixed front-end with LEYCO-STACCELerator(s). Mix ± 2 minutes with a low-speed hand mixer (± 400 rpm).

Per canister of **25** kg **LEYCO-STACLINE-V2 Resin**:

LEYCO-STACCELerator-1	10 °C	15 °C	20 °C	25 °C
Percentage	0,7 %	0,6 %	0,5 %	0,4 %
= Weight	175 g	150 g	125 g	100 g
= Volume (0,96 g/ml)	180 ml	160 ml	130 ml	100 ml
+ LEYCO-STACCELerator-3	**10 °C**	**15 °C**	**20 °C**	**25 °C**
Percentage	1,5 %	1,0 %		
= Weight	375 g	250 g		
= Volume (0,93 g/ml)	400 ml	270 ml		

For further information, contact a LEYDE representative.

2. Coating preparation

Mix for ± 2 minutes the accelerated resin with LEYCOSTACATalyst-1. Use a low-speed hand mixer (± 400 rpm). Do not mix more products than can be applied inside the pot life. Using the indicated mixing ratios, the pot life is ± 25 minutes.

Per canister of **25** kg **LEYCO-STACLINE-V2 Resin** (accelerated):

LEYCO-STACATalyst-1	10 °C	15 °C	20 °C	25 °C
Percentage	3,0 %	2,5 %	2,0 %	1,8 %
= Weight	750 g	625 g	500 g	450 g
= Volume (1,04 g/ml)	720 ml	600 ml	480 ml	430 ml

LEYCO-STACCELerators AND **LEYCO-STACATalysts** MAY NEVER BE STOCKED, TRANSPORTED OR DIRECTLY MIXED TOGETHER!

Application

The standard application is continuous, making use of:
- 2 powder glass mats of 300 g/m²,
- 1 C-glass veil of 30 g/m².

Roll resin on the primed surface: ± 400 g/m².
Press herein the 1st glass mat (e.g. LEYCO-STACMAT-300) and impregnate it completely with resin: ± 600 g/m².
Treat with a de-aeration roll.

Press the 2nd glass mat (e.g. LEYCO-STACMAT-300) in the wet resin and impregnate it completely with resin: ± 1.000 g/m².
Treat with a de-aeration roll.

To obtain a completely smooth surface, a C-glass veil (e.g. LEYCO-STACMAT-30) is pressed in the wet resin and treated with a de-aeration roll. Roll finally the last resin layer over the veil: ± 500 g/m².

Inspect with a spark test (1MV/mm).

The curing time is dependent of air circulation, temperature, humidity, layer thickness, etc… Under standard conditions: walkover after ± 3 hours, light service after ± 12 hours, full service after ± 3 days.

Depending of the anticipated service, the desired aspect, the condition of the concrete and the practical constraints during the application, the applicator will use:
- *1,2 or 3 glass mats of 300 or 450 g/m²,*
- *0,1 or 2 glass veils,*
- *Continuous or discontinuous application,*
- *Post-curing (advised).*

For further information, contact a LEYDE representative.

Safety

See LEYCO-STACLINE-V2 components safety datasheets.

Storage

The shelf life of all products is 6 months under standard conditions: temperature between 15 and 25 °C, in dry well ventilated place, away from source of heat, ignition, oxidising (and/or reduction) agents and direct sunlight. Containers must be kept carefully sealed.

On customer request, LEYCO-STACLINE-V2 Resin can be pre-accelerated. Its shelf life is then limited to 1 month.

Packaging

- LEYCO-STACLINE-V2 Resin: 25 kg metal canister
- LEYCO-STACCELerator-1: 2 kg metal bottle
- LEYCO-STACCELerator-3: 5 kg PE bottle
- LEYCO-STACATalyst-1: 5 kg PE bottle
- *LEYCO-STACMAT-300: ± 60 kg roll*
- *LEYCO-STACMAT-30: ± 9 kg roll*

On customer request, large industrial containers are available. LEYCO-STACMATs are optional.

LEYCO CHEMISCHE LEYDE GMBH
Industriestr. 155
D-50999 COLOGNE
Tel.: +49 2236 – 9 66 00-0, Fax: +49 2236 – 9 66 00 10
leycochem@leyde.com, www.leyde.com

LEYCO-STACLAM-V1

Heavy duty, hydrophobic, non-shrink, vinyl ester based, laminar-scattered system

Description

LEYCO-STACLAM-V1 is an extremely resistant, hydrophobic and non-shrink, floor coating system, based on modified vinyl ester. It is a laminated system, scattered with dry clean quartz, for horizontal applications of ± 2,5 mm. It protects concrete structures efficiently, over a long period, against very aggressive chemical, mechanical and thermal corrosion.

Its advantages are:

1. Non-shrink, modified vinyl ester:

- Resistant against very aggressive chemicals: pH 2-13,
- Temperature resistant from - 40 till + 150 °C,
- Resists thermal shocks (dependent of the layer thickness),
- High abrasion and impact resistance,
- Non-shrink curing: allows "unlimited" layer thickness, without creation of tension,
- Thermal expansion comparable with that of concrete: tension-free at long term.

⇨ LONG LIFE TIME

2. Easy and quick application:

- Simplified mixture: 3-components,
- Resin consumption for 2,5 mm system is ± 1,9 kg/m²,
- Smooth application.

⇨ FAST CAREFREE INSTALLATION

3. Rapid (re)utilisation:

- Multi-layer coating system, installed in a few hours,
- Walkover after ± 3 hours, light service after ± 12 hours, full service after ± 3 days.

⇨ MINIMAL PRODUCTION STOP

4. Hygienic and secure:

- Anti-skid,
- Inert,
- Hydrophobic: impermeable and easy to clean,
- Minimal styrene emission (odour almost absent),
- Minimal amount of joints (topping structural concrete joints).

⇨ THE SAFE CONCRETE PROTECTION FOR ALL INDUSTRIES

Application fields

Concrete floors exposed to abrasion, attacked by aggressive chemicals and/or high temperatures, are treated with LEYCO-STACLAM-V1. Especially for strong inorganic bases (pH > 12) is LEYCO-STACLAM-V1 preferred above LEYCO-STACLAM-V2.

Commonly used in a wide range of industries: chemical, petrochemical, steel, fertiliser, pulp and paper, utilities, etc…

In the food industry, installation has to be done preferably during shutdowns (minimum 4 days), due to styrene emission during and just after the application.

Properties cured LEYCO-STACLAM-V1

Physical characteristics

Under standard conditions, a.o. 20 days curing at 20 °C.

Density	**1,5** kg/dm³
Compression strength	**80** MPa
Tensile strength	**20** MPa
Flexural strength	**18** MPa
Elasticity Modulus	**20** GPa
Adhesion to concrete	**Rupture concrete**
Abrasion resistance (Taber)	**80** mg
Thermal expansion coefficient	**21 x 10^{-6}**
Water absorption	**0** mg
Temperature resistance	**- 40 to + 150** °C
Standard colours	**Grey, Beige, Red, Green, White**

Norms, test methods and results are available on demand. On customer request, other colours are available.

Chemical resistance

LEYCO-STACLAM-V1 resists very aggressive chemicals at high concentrations and high temperatures.

The table below gives a few typical examples of potential exposure to chemicals at certain concentrations up to a maximum temperature.

INORGANIC CHEMICALS			Conc.	Temp.
ACIDS	Hydrochloric acid	HCl	20 %	90 °C
			37 %	45 °C
	Nitric acid	HNO_3	15 %	65 °C
			20 %	50 °C
			30 %	40 °C
	Phosphoric acid	H_3PO_4	All	90 °C
	Sulphuric acid	H_2SO_4	50 %	90 °C
			70 %	80 °C
			80 %	40 °C
BASES	Ammonium hydroxide	NH_4OH	20 %	60 °C
	Sodium carbonate	Na_2CO_3	35 %	60 °C
	Sodium hydroxide	NaOH	25 %	60 °C
			50 %	90 °C
SALTS	Sodium chloride	NaCl	All	90 °C
	Sodium nitrate	$NaNO_3$	All	90 °C
	Sodium phosphate	Na_3PO_4	All	90 °C
	Sodium sulphate	Na_2SO_4	All	90 °C
ORGANIC CHEMICALS			**Conc.**	**Temp.**
ACIDS	Acetic acid	H_3C-COOH	75 %	60 °C
	Fatty acids	> C12	All	90 °C
SALTS	Ammonium acetate	CH_3COONH_4	All	45 °C
	Sodium acetate	CH_3COONa	All	90 °C
OTHERS	Crude oils		100 %	90 °C
	Ethanol	C_2H_5OH	95 %	40 °C

Detailed information: LEYDE Chemical Corrosion Resistance List.

Surface conditioning

1. Surface preparation

The concrete substrate quality must be in line with the standard specifications (e.g. **moisture < 4%**, compression strength > 25 MPa, tensile strength > 1,5 MPa). Clean the surface (e.g. sandblast) until it's free of dust, oil and/or 'concrete laitance'.

2. Priming

Not needed, except for very porous substrates.
See technical datasheet LEYCO-STACPRIMER-V1.

3. Conditions during application

Standard application is possible when the surface temperature is between 10 to 25 °C and minimum 3 °C above dew point. The air humidity should be as low as possible (< 85 % RH). Measure moisture content and temperature nearby the surface to be coated.

WATER OR CONDENSATION ON THE COATING, BEFORE FULL POLYMERISATION, CAN PROVOKE A NON-COMPLETE CURE!

For further information, contact a LEYDE representative.

Mixing ratios

1. Resin acceleration

The anticipated resin consumption for the actual day is mixed front-end with LEYCO-STACCELerator(s). Mix ± 2 minutes with a low-speed hand mixer (± 400 rpm).

Per canister of **25** kg **LEYCO-STACLINE-V1 Resin**:

LEYCO-STACCELerator-1	**10 °C**	**15 °C**	**20 °C**	**25 °C**
Percentage	**0,7 %**	**0,6 %**	**0,5 %**	**0,4 %**
= Weight	**175 g**	**150 g**	**125 g**	**100 g**
= Volume (0,96 g/ml)	**180 ml**	**160 ml**	**130 ml**	**100 ml**
+ LEYCO-STACCELerator-3	**10 °C**	**15 °C**	**20 °C**	**25 °C**
Percentage	**1,5 %**	**1,0 %**		
= Weight	**375 g**	**250 g**		
= Volume (0,93 g/ml)	**400 ml**	**270 ml**		

For further information, contact a LEYDE representative.

2. Coating preparation

Mix for ± 2 minutes the accelerated resin with LEYCO-STACATalyst-1. Use a low-speed hand mixer (± 400 rpm). Do not mix more products than can be applied inside the pot life. Using the indicated mixing ratios, the pot life is ± 25 minutes.

Per canister of **25** kg **LEYCO-STACLINE-V1 Resin** (accelerated):

LEYCO-STACATalyst-1	**10 °C**	**15 °C**	**20 °C**	**25 °C**
Percentage	**3,0 %**	**2,5 %**	**2,0 %**	**1,8 %**
= Weight	**750 g**	**625 g**	**500 g**	**450 g**
= Volume (1,04 g/ml)	**720 ml**	**600 ml**	**480 ml**	**430 ml**

LEYCO-STACCELerators AND **LEYCO-STACATalysts** MAY NEVER BE STOCKED, TRANSPORTED OR DIRECTLY MIXED TOGETHER!

Application

LEYCO-STACLAM-V1 has to be applied directly after the surface preparation.

If the primer is used, it's applied 1 to 3 hours after priming (maximum after 24 hours if the primer is scattered).

1. First laminar layer

- Pour the prepared resin on the primed floor and level methodically with a scraper and a paint roller (crossed pattern): ± 700 g/m².
- Scatter immediately and completely with dry clean quartz: ∅ 400 tot 800 µ (e.g. LEYCO-STACLAM-V Filler).
- When the layer is sufficiently dry (after ± 1 hour), brush and vacuum clean thoroughly.

2. Second laminar layer

- Repeat the preparation of LEYCO-STACLINE-V1 Resin.
- Repeat the application procedure: ± 700 g/m².

3. Topcoat

- Repeat the preparation of LEYCO-STACLINE-V1 Resin.
- Pour the prepared resin on the treated floor and level methodically with a scraper and a paint roller (crossed pattern): ± 500 g/m².

The curing time is dependent of air circulation, temperature, humidity, layer thickness, etc… Under standard conditions: walkover after ± 3 hours, light service after ± 12 hours, full service after ± 3 days.

For further information, contact a LEYDE representative.

Safety

See LEYCO-STACLAM-V1 components safety datasheets.

Storage

The shelf life of all products is 6 months under standard conditions: temperature between 15 and 25 °C, in dry well ventilated place, away from source of heat, ignition, oxidising (and/or reduction) agents and direct sunlight. Containers must be kept carefully sealed.

On customer request, LEYCO-STACLINE-V1 Resin can be pre-accelerated. Its shelf life is then limited to 1 month.

Packaging

- LEYCO-STACLINE-V1 Resin: 25 kg metal canister
- LEYCO-STACCELerator-1: 2 kg metal bottle
- LEYCO-STACCELerator-3: 5 kg PE bottle
- LEYCO-STACATalyst-1: 5 kg PE bottle
- *LEYCO-STACLAM-V Filler: 25 kg paper bag*

On customer request, large industrial containers are available.
LEYCO-STACLAM-V Filler is optional.

LEYCO CHEMISCHE LEYDE GMBH
Industriestr. 155
D-50999 COLOGNE
Tel.: +49 2236 – 9 66 00-0,
Fax: +49 2236 – 9 66 00 10
leycochem@leyde.com, www.leyde.com

LEYCO-STACLAM-V2

Heavy duty, hydrophobic, non-shrink, vinyl ester based, laminar-scattered system

Description

LEYCO-STACLAM-V2 is an extremely resistant, hydrophobic and non-shrink, floor coating system, based on modified vinyl ester. It is a laminated system, scattered with dry clean quartz, for horizontal applications of ± 2,5 mm. It protects concrete structures efficiently, over a long period, against very aggressive chemical, mechanical and thermal corrosion.

Its advantages are:

1. Non-shrink, modified vinyl ester:

- Resistant against very aggressive chemicals: pH 1-12,
- Temperature resistant from - 40 till + 180 °C,
- Resists thermal shocks (dependent of the layer thickness),
- High abrasion and impact resistance,
- Non-shrink curing: allows "unlimited" layer thickness, without creation of tension,
- Thermal expansion comparable with that of concrete: tension-free at long term.

⇨ LONG LIFE TIME

2. Easy and quick application:

- Simplified mixture: 3-components,
- Resin consumption for 2,5 mm system is ± 1,9 kg/m²,
- Smooth application.

⇨ FAST CAREFREE INSTALLATION

3. Rapid (re)utilisation:

- Multi-layer coating system, installed in a few hours,
- Walkover after ± 3 hours, light service after ± 12 hours, full service after ± 3 days.

⇨ MINIMAL PRODUCTION STOP

4. Hygienic and secure:

- Anti-skid,
- Inert,
- Hydrophobic: impermeable and easy to clean,
- Minimal styrene emission (odour almost absent),
- Minimal amount of joints (topping structural concrete joints).

⇨ THE SAFE CONCRETE PROTECTION FOR ALL INDUSTRIES

Application fields

Concrete floors exposed to abrasion, attacked by aggressive chemicals and/or high temperatures, are treated with LEYCO-STACLAM-V2. Especially for strong acids (pH < 2), organic bases and solvents is LEYCO-STACLAM-V2 preferred above LEYCO-STACLAM-V1.

Commonly used in a wide range of industries: chemical, petrochemical, steel, fertiliser, pulp and paper, utilities, etc…

In the food industry, installation has to be done preferably during shutdowns (minimum 4 days), due to styrene emission during and just after the application.

Properties cured LEYCO-STACLAM-V2

Physical characteristics

Under standard conditions, a.o. 20 days curing at 20 °C.

Density	**1,5** kg/dm³
Compression strength	**75** MPa
Tensile strength	**20** MPa
Flexural strength	**17** MPa
Elasticity Modulus	**20** GPa
Adhesion to concrete	**Rupture concrete**
Abrasion resistance (Taber)	**80** mg
Thermal expansion coefficient	**20 x 10^{-6}**
Water absorption	**0** mg
Temperature resistance	**- 40 to + 180** °C
Standard colours	**Grey, Beige, Red, Green, White**

Norms, test methods and results are available on demand. On customer request, other colours are available.

Chemical resistance

LEYCO-STACLAM-V2 resists very aggressive chemicals at high concentrations and high temperatures.
The table below gives a few typical examples of potential exposure to chemicals at certain concentrations up to a maximum temperature.

INORGANIC CHEMICALS			Conc.	Temp.
ACIDS	Hydrochloric acid	HCl	20 %	100 °C
			37 %	65 °C
	Nitric acid	HNO_3	15 %	65 °C
			20 %	50 °C
			30 %	40 °C
	Phosphoric acid	H_3PO_4	All	100 °C
	Sulphuric acid	H_2SO_4	50 %	100 °C
			70 %	80 °C
			80 %	40 °C
BASES	Ammonium hydroxide	NH_4OH	20 %	65 °C
	Sodium carbonate	Na_2CO_3	35 %	80 °C
	Sodium hydroxide	NaOH	25 %	70 °C
			50 %	100 °C
SALTS	Sodium chloride	NaCl	All	100 °C
	Sodium nitrate	$NaNO_3$	All	100 °C
	Sodium phosphate	Na_3PO_4	All	100 °C
	Sodium sulphate	Na_2SO_4	All	100 °C
ORGANIC CHEMICALS			**Conc.**	**Temp.**
ACIDS	Acetic acid	H_3C-COOH	75 %	65 °C
	Fatty acids	> C12	All	100 °C
BASES	Butyl amine	C_4H_9-NH_2	50 %	25 °C
	Aniline	C_6H_7N	All	40 °C
SALTS	Ammonium acetate	CH_3COONH_4	All	45 °C
	Sodium acetate	CH_3COONa	All	100 °C
OTHERS	Crude oils		100 %	100 °C
	Ethanol	C_2H_5OH	95 %	40 °C
	Benzene	C_6H_6	100 %	35 °C
	Toluene	C_7H_8	100 %	45 °C

Detailed information: LEYCO Chemical Corrosion Resistance List.

Surface conditioning

1. Surface preparation

The concrete substrate quality must be in line with the standard specifications (e.g. **moisture < 4%**, compression strength > 25 MPa, tensile strength > 1,5 MPa). Clean the surface (e.g. sandblast) until it's free of dust, oil and/or 'concrete laitance'.

2. Priming

Not needed, except for very porous substrates.
See technical datasheet LEYCO-STACPRIMER-V1.

3. Conditions during application

Standard application is possible when the surface temperature is between 10 to 25 °C and minimum 3 °C above dew point. The air humidity should be as low as possible (< 85 % RH). Measure moisture content and temperature nearby the surface to be coated.

WATER OR CONDENSATION ON THE COATING, BEFORE FULL POLYMERISATION, CAN PROVOKE A NON-COMPLETE CURE!

For further information, contact a LEYDE representative.

Mixing ratios

1. Resin acceleration

The anticipated resin consumption for the actual day is mixed front-end with LEYCO-STACCELerator(s). Mix ± 2 minutes with a low-speed hand mixer (± 400 rpm).

Per canister of **25** kg **LEYCO-STACLINE-V2 Resin**:

LEYCO-STACCELerator-1	10 °C	15 °C	20 °C	25 °C
Percentage	0,7 %	0,6 %	0,5 %	0,4 %
= Weight	175 g	150 g	125 g	100 g
= Volume (0,96 g/ml)	180 ml	160 ml	130 ml	100 ml
+ LEYCO-STACCELerator-3	**10 °C**	**15 °C**	**20 °C**	**25 °C**
Percentage	1,5 %	1,0 %		
= Weight	375 g	250 g		
= Volume (0,93 g/ml)	400 ml	270 ml		

For further information, contact a LEYDE representative.

2. Coating preparation

Mix for ± 2 minutes the accelerated resin with LEYCO-STACATalyst-1. Use a low-speed hand mixer (± 400 rpm). Do not mix more products than can be applied inside the pot life. Using the indicated mixing ratios, the pot life is ± 25 minutes.

Per canister of **25** kg **LEYCO-STACLINE-V2 Resin** (accelerated):

LEYCO-STACATalyst-1	10 °C	15 °C	20 °C	25 °C
Percentage	3,0 %	2,5 %	2,0 %	1,8 %
= Weight	750 g	625 g	500 g	450 g
= Volume (1,04 g/ml)	720 ml	600 ml	480 ml	430 ml

LEYCO-STACCELerators AND **LEYCO-STACATalysts** MAY NEVER BE STOCKED, TRANSPORTED OR DIRECTLY MIXED TOGETHER!

Application

LEYCO-STACLAM-V2 has to be applied directly after the surface preparation.

If the primer is used, it's applied 1 to 3 hours after priming (maximum after 24 hours if the primer is scattered).

1. First laminar layer

- Pour the prepared resin on the primed floor and level methodically with a scraper and a paint roller (crossed pattern): ± 700 g/m².
- Scatter immediately and completely with dry clean quartz: ∅ 400 tot 800 µ (e.g. LEYCO-STACLAM-V Filler).
- When the layer is sufficiently dry (after ± 1 hour), brush and vacuum clean thoroughly.

2. Second laminar layer

- Repeat the preparation of LEYCO-STACLINE-V1 Resin.
- Repeat the application procedure: ± 700 g/m².

3. Topcoat

- Repeat the preparation of LEYCO-STACLINE-V1 Resin.
- Pour the prepared resin on the treated floor and level methodically with a scraper and a paint roller (crossed pattern): ± 500 g/m².

The curing time is dependent of air circulation, temperature, humidity, layer thickness, etc… Under standard conditions: walkover after ± 3 hours, light service after ± 12 hours, full service after ± 3 days.

For further information, contact a LEYDE representative.

Safety

See LEYCO-STACLAM-V2 components safety datasheets.

Storage

The shelf life of all products is 6 months under standard conditions: temperature between 15 and 25 °C, in dry well ventilated place, away from source of heat, ignition, oxidising (and/or reduction) agents and direct sunlight. Containers must be kept carefully sealed.

On customer request, LEYCO-STACLINE-V2 Resin can be pre-accelerated. Its shelf life is then limited to 1 month.

Packaging

- LEYCO-STACLINE-V2 Resin: 25 kg metal canister
- LEYCO-STACCELerator-1: 2 kg metal bottle
- LEYCO-STACCELerator-3: 5 kg PE bottle
- LEYCO-STACATalyst-1: 5 kg PE bottle
- *LEYCO-STACLAM-V Filler: 25 kg paper bag*

On customer request, large industrial containers are available.
LEYCO-STACLAM-V Filler is optional.

LEYCO CHEMISCHE LEYDE GMBH
Industriestr. 155
D-50999 COLOGNE
Tel.: +49 2236 – 9 66 00-0,
Fax: +49 2236 – 9 66 00 10
leycochem@leyde.com, www.leyde.com

LEYCO-STACOAT-V1

Heavy duty, non-shrink, vinyl ester based, universal coating system

Description

LEYCO-STACOAT-V1 is an extremely resistant, non-shrink, universal coating system, based on modified vinyl ester. It is reinforced with MIO flakes (Micaceous Iron Oxide). A mono-layer, without primer, is possible both for horizontal and vertical applications (300 to 1.200 µ). It protects concrete and steel structures efficiently, over a long period, against very aggressive chemical, mechanical and thermal corrosion.

Its advantages are:

1. Non-shrink, modified vinyl ester:

- Resistant against very aggressive chemicals: pH 2-13,
- Temperature resistant from - 40 till + 150 °C,
- High abrasion and impact resistance,
- Non-shrink curing: allows "unlimited" layer thickness, without creation of tension,
- Thermal expansion comparable with that of concrete: tension-free at long term.

⇨ **LONG LIFE TIME**

2. Laminated, inert MIO flakes:

- Strong diffusion barrier effect,
- Reinforce the paint film and reduce distortion,
- Shielding effect against e.g. UV degradation.

⇨ **STRONGER, MORE RESISTANT: VERY LONG LIFE TIME**

3. Easy and quick application:

- Simplified mixture: 3-components,
- Resin consumption for 600 µ dry coating is ± 1,2 kg/m²,
- Smooth application: standard 1 layer, no primer.

⇨ **FAST CAREFREE INSTALLATION**

4. Rapid (re)utilisation:

- Mono-layer system, installed in a few hours,
- Dry after ± 3 hours, fully cured after ± 3 days.

⇨ **MINIMAL PRODUCTION STOP**

5. Hygienic and secure:

- Inert,
- Smooth surface guarantees compliant cleaning,
- Minimal styrene emission (odour almost absent).

⇨ **THE SAFE CONCRETE AND STEEL PROTECTION FOR ALL INDUSTRIES**

Application fields

Concrete and steel floors, walls, drains, retention basins, sockles, tanks, vessels, pipelines, etc… exposed to aggressive chemicals and/or high temperatures, are treated with LEYCO-STACOAT-V1. Especially for strong inorganic bases (pH > 12) is LEYCO-STACOAT-V1 preferred above LEYCO-STACOAT-V2.

Commonly used in a wide range of industries: chemical, petrochemical, steel, fertiliser, pulp and paper, utilities, etc…

Properties *cured STACOAT-V1*

Physical characteristics

Under standard conditions, a.o. 20 days curing at 20 °C.

Density	**1,7** kg/dm³
Barcol Hardness	**40**
Elongation at break	**6,1** %
Adhesion to concrete	**Rupture concrete**
Adhesion to steel	**> 5** MPa
Abrasion resistance (Taber)	**xx** mg
Charpy impact resistance	**28** KJ/m²
Temperature resistance	**- 40 to + 150** °C
Standard colours	**Grey, Beige, Black, Red, Green**

Norms, test methods and results are available on demand. On customer request, other colours are available.

Chemical resistance

LEYCO-STACOAT-V1 resists very aggressive chemicals at high concentrations and high temperatures.

The table below gives a few typical examples of potential exposure to chemicals at certain concentrations up to a maximum temperature.

INORGANIC CHEMICALS			Conc.	Temp.
ACIDS	Hydrochloric acid	HCl	20 %	90 °C
			37 %	45 °C
	Nitric acid	HNO_3	15 %	65 °C
			20 %	50 °C
			30 %	40 °C
	Phosphoric acid	H_3PO_4	All	90 °C
	Sulphuric acid	H_2SO_4	50 %	90 °C
			70 %	80 °C
			80 %	40 °C
BASES	Ammonium hydroxide	NH_4OH	20 %	60 °C
	Sodium carbonate	Na_2CO_3	35 %	60 °C
	Sodium hydroxide	NaOH	25 %	60 °C
			50 %	90 °C
SALTS	Sodium chloride	NaCl	All	90 °C
	Sodium nitrate	$NaNO_3$	All	90 °C
	Sodium phosphate	Na_3PO_4	All	90 °C
	Sodium sulphate	Na_2SO_4	All	90 °C
ORGANIC CHEMICALS			**Conc.**	**Temp.**
ACIDS	Acetic acid	$H_3C\text{-}COOH$	75 %	60 °C
	Fatty acids	> C12	All	90 °C
SALTS	Ammonium acetate	CH_3COONH_4	All	45 °C
	Sodium acetate	CH_3COONa	All	90 °C
OTHERS	Crude oils		100 %	90 °C
	Ethanol	C_2H_5OH	95 %	40 °C

Surface conditioning

1. Surface preparation

Concrete: The concrete substrate quality must be in line with the standard specifications (e.g. **moisture < 4%**, compression strength > 25 MPa, tensile strength > 1,5 MPa). Clean the surface (e.g. sandblast) until it's free of dust, oil and/or 'concrete laitance'.

Steel: Steam or wash (e.g. with sodium triphosphate) the substrate to remove grease, oil and other pollutants. When dry, sandblast till SA 2,5 (ISO 8501-1: 1988/SS 05.5900). Profile depth must be minimum 70 µ. Vacuum clean and apply coating immediately.

2. Priming

Not needed.

3. Conditions during application

Standard application is possible when the surface temperature is between 10 to 25 °C and minimum 3 °C above dew point. The air humidity should be as low as possible (< 85% RH). Measure moisture content and temperature nearby the surface to be coated.

WATER OR CONDENSATION ON THE COATING, BEFORE FULL POLYMERISATION, CAN PROVOKE A NON-COMPLETE CURE!

For further information, contact a LEYCO representative.

Mixing ratios

1. Resin acceleration

The anticipated resin consumption for the actual day is mixed front-end with STACCELerator(s). Mix ± 2 minutes with a low-speed hand mixer (± 400 rpm).

Per canister of **25** kg **STACOAT-V1 Resin**:

STACCELerator-1	10 °C	15 °C	20 °C	25 °C
Percentage	0,6 %	0,5 %	0,4 %	0,3 %
= Weight	150 g	125 g	100 g	75 g
= Volume (0,96 g/ml)	160 ml	130 ml	100 ml	80 ml
+ STACCELerator-3	**10 °C**	**15 °C**	**20 °C**	**25 °C**
Percentage	1,3 %	0,8 %		
= Weight	325 g	200 g		
= Volume (0,93 g/ml)	350 ml	220 ml		

For further information, contact a LEYCO representative.

2. Coating preparation

Mix for ± 2 minutes the accelerated resin with LEYCO-STACATalyst-1. Use a low-speed hand mixer (± 400 rpm). Do not mix more products than can be applied inside the pot life. Using the indicated mixing ratios, the pot life is ± 25 minutes.

Per canister of **25** kg **STACOAT-V1 Resin** (accelerated):

STACATalyst-1	10 °C	15 °C	20 °C	25 °C
Percentage	2,5 %	2,1 %	1,8 %	1,6 %
= Weight	625 g	525 g	450 g	400 g
= Volume (1,04 g/ml)	600 ml	500 ml	430 ml	380 ml

STACCELerators AND STACATalysts MAY NEVER BE STOCKED, TRANSPORTED OR DIRECTLY MIXED TOGETHER!

Application

The coating has to be applied immediately after the surface conditioning (especially for steel). STACOAT-V1 can be applied, making use of a:

- Paint brush: with natural hair,
- Paint roll: with short hair or mohair,
- Airless spray: minimum capacity of 12 litre/minute, 1 nozzle with Ø of 0,70 to 1,35 mm (0,027" to 0,053") and nozzle pressure of ± 15 MPa (150 bar).

The standard application, on a well prepared surface, consists of 2 layers of 300 µ each (dry). Taking into account the solids content, the normal spray losses and the density, an average consumption of ± 1,2 kg/m² is anticipated.

Spraying has to be done in the approved professional manner (e.g. fluent alternating 2-D movements, spray angle of 40 to 80°), without adding solvents. Rinse the equipment regularly (e.g. styrene, MEK), especially when the temperature of the resin increases above 35 °C.

Inspect with a spark test (1MV/300 µ).

The curing time is dependent of air circulation, temperature, humidity, layer thickness, etc… Under standard conditions: dry after ± 3 hours, fully cured after ± 3 days.

Depending of the anticipated service, the desired aspect, the condition of the substrate and the practical constraints during the application, the applicator will use:

- *1, 2 or 3 layers (optimal adhesion if previous layer is not completely cured),*
- *Individual layer thickness 200 to 500 µ.*

For further information, contact a LEYCO representative.

Safety

See LEYCO-STACOAT-V1 components safety datasheets.

Storage

The shelf life of all products is 6 months under standard conditions: temperature between 15 to 25 °C, in dry well ventilated place, away from source of heat, ignition, oxidising (and/or reduction) agents and direct sunlight. Containers must be kept carefully sealed.

On customer request, LEYCO-STACOAT-V1Resin can be pre-accelerated. Its shelf life is then limited to 1 month.

Packaging

- LEYCO-STACOAT-V1 Resin: 25 kg metal canister
- LEYCO-STACCELerator-1: 2 kg metal bottle
- LEYCO-STACCELerator-3: 5 kg PE bottle
- LEYCO-STACATalyst-1: 5 kg PE bottle

On customer request, large industrial containers are available.

LEYCO CHEMISCHE LEYDE GMBH
Industriestr. 155
D-50999 COLOGNE
Tel.: +49 2236 – 9 66 00-0, Fax: +49 2236 – 9 66 00 10
leycochem@leyde.com, www.leyde.com

LeycoChem LEYDE

LEYCO-STACOAT-V2

Heavy duty, non-shrink, vinyl ester based, universal coating system

Description

LEYCO-STACOAT-V2 is an extremely resistant, non-shrink, universal coating system, based on modified vinyl ester. It is reinforced with MIO flakes (Micaceous Iron Oxide). A mono-layer, without primer, is possible both for horizontal and vertical applications (300 to 1.200 µ). It protects concrete and steel structures efficiently, over a long period, against very aggressive chemical, mechanical and thermal corrosion.

Its advantages are:

1. Non-shrink, modified vinyl ester:

- Resistant against very aggressive chemicals: pH 1-12,
- Temperature resistant from - 40 till + 180 °C,
- High abrasion and impact resistance,
- Non-shrink curing: allows "unlimited" layer thickness, without creation of tension,
- Thermal expansion comparable with that of concrete: tension-free at long term.

⇨ **LONG LIFE TIME**

2. Laminated, inert MIO flakes:

- Strong diffusion barrier effect,
- Reinforce the paint film and reduce distortion,
- Shielding effect against e.g. UV degradation.

⇨ **STRONGER, MORE RESISTANT: VERY LONG LIFE TIME**

3. Easy and quick application:

- Simplified mixture: 3-components,
- Resin consumption for 600 µ dry coating is ± 1,2 kg/m²,
- Smooth application: standard 1 layer, no primer.

⇨ **FAST CAREFREE INSTALLATION**

4. Rapid (re)utilisation:

- Mono-layer system, installed in a few hours,
- Dry after ± 3 hours, fully cured after ± 3 days.

⇨ **MINIMAL PRODUCTION STOP**

5. Hygienic and secure:

- Inert,
- Smooth surface guarantees compliant cleaning,
- Minimal styrene emission (odour almost absent).

⇨ **THE SAFE CONCRETE AND STEEL PROTECTION FOR ALL INDUSTRIES**

Application fields

Concrete and steel floors, walls, drains, retention basins, sockles, tanks, vessels, pipelines, etc… exposed to aggressive chemicals and/or high temperatures, are treated with **LEYCO-STACOAT-V2**. Especially for strong acids (pH < 2), organic bases and solvents is **LEYCO-STACOAT-V2** preferred above **LEYCO-STACOAT-V1**.

Commonly used in a wide range of industries: chemical, petrochemical, steel, fertiliser, pulp and paper, utilities, etc…

Properties *cured STACOAT-V2*

Physical characteristics

Under standard conditions, a.o. 20 days curing at 20 °C.

Density	**1,7** kg/dm³
Barcol Hardness	**40**
Elongation at break	**4,0** %
Adhesion to concrete	**Rupture concrete**
Adhesion to steel	**> 5** MPa
Abrasion resistance (Taber)	**xx** mg
Charpy impact resistance	**13** KJ/m²
Temperature resistance	**- 40 to + 180** °C
Standard colours	**Grey, Beige, Black, Red, Green**

Norms, test methods and results are available on demand. On customer request, other colours are available.

Chemical resistance

LEYCO-STACOAT-V2 resists very aggressive chemicals at high concentrations and high temperatures.

The table below gives a few typical examples of potential exposure to chemicals at certain concentrations up to a maximum temperature.

INORGANIC CHEMICALS			Conc.	Temp.
ACIDS	Hydrochloric acid	HCl	20 %	100 °C
			37 %	65 °C
	Nitric acid	HNO_3	15 %	65 °C
			20 %	50 °C
			30 %	40 °C
	Phosphoric acid	H_3PO_4	All	100 °C
	Sulphuric acid	H_2SO_4	50 %	100 °C
			70 %	80 °C
			80 %	40 °C
BASES	Ammonium hydroxide	NH_4OH	20 %	65 °C
	Sodium carbonate	Na_2CO_3	35 %	80 °C
	Sodium hydroxide	NaOH	25 %	70 °C
			50 %	100 °C
SALTS	Sodium chloride	NaCl	All	100 °C
	Sodium nitrate	$NaNO_3$	All	100 °C
	Sodium phosphate	Na_3PO_4	All	100 °C
	Sodium sulphate	Na_2SO_4	All	100 °C
ORGANIC CHEMICALS			**Conc.**	**Temp.**
ACIDS	Acetic acid	$H_3C\text{-}COOH$	75 %	65 °C
	Fatty acids	> C12	All	100 °C
BASES	Butyl amine	$C_4H_9\text{-}NH_2$	50 %	25 °C
	Aniline	C_6H_7N	All	40 °C
SALTS	Ammonium acetate	CH_3COONH_4	All	45 °C
	Sodium acetate	CH_3COONa	All	100 °C
OTHERS	Crude oils		100 %	100 °C
	Ethanol	C_2H_5OH	95 %	40 °C
	Benzene	C_6H_6	100 %	35 °C
	Toluene	C_7H_8	100 %	45 °C

Surface conditioning

1. Surface preparation

Concrete: The concrete substrate quality must be in line with the standard specifications (e.g. **moisture < 4%**, compression strength > 25 MPa, tensile strength > 1,5 MPa). Clean the surface (e.g. sandblast) until it's free of dust, oil and/or 'concrete laitance'.

Steel: Steam or wash (e.g. with sodium triphosphate) the substrate to remove grease, oil and other pollutants. When dry, sandblast till SA 2,5 (ISO 8501-1: 1988/SS 05.5900). Profile depth must be minimum 70 µ. Vacuum clean and apply coating immediately.

2. Priming

Not needed.

3. Conditions during application

Standard application is possible when the surface temperature is between 10 to 25 °C and minimum 3 °C above dew point. The air humidity should be as low as possible (< 85% RH). Measure moisture content and temperature nearby the surface to be coated.

WATER OR CONDENSATION ON THE COATING, BEFORE FULL POLYMERISATION, CAN PROVOKE A NON-COMPLETE CURE!

For further information, contact a LEYCO representative.

Mixing ratios

1. Resin acceleration

The anticipated resin consumption for the actual day is mixed front-end with STACCELerator(s). Mix ± 2 minutes with a low-speed hand mixer (± 400 rpm).

Per canister of **25** kg **LEYCO-STACOAT-V2 Resin**:

STACCELerator-1	10 °C	15 °C	20 °C	25 °C
Percentage	0,6 %	0,5 %	0,4 %	0,3 %
= Weight	150 g	125 g	100 g	75 g
= Volume (0,96 g/ml)	160 ml	130 ml	100 ml	80 ml
+ STACCELerator-3	**10 °C**	**15 °C**	**20 °C**	**25 °C**
Percentage	1,3 %	0,8 %		
= Weight	325 g	200 g		
= Volume (0,93 g/ml)	350 ml	220 ml		

For further information, contact a LEYCO representative.

2. Coating preparation

Mix for ± 2 minutes the accelerated resin with LEYCO-STACATalyst-1. Use a low-speed hand mixer (± 400 rpm). Do not mix more products than can be applied inside the pot life. Using the indicated mixing ratios, the pot life is ± 25 minutes.

Per canister of **25** kg **STACOAT-V2 Resin** (accelerated):

STACATalyst-1	10 °C	15 °C	20 °C	25 °C
Percentage	2,5 %	2,1 %	1,8 %	1,6 %
= Weight	625 g	525 g	450 g	400 g
= Volume (1,04 g/ml)	600 ml	500 ml	430 ml	380 ml

LEYCO-STACCELerators AND LEYCO-STACATalysts MAY NEVER BE STOCKED, TRANSPORTED OR DIRECTLY MIXED TOGETHER!

Application

The coating has to be applied immediately after the surface conditioning (especially for steel). STACOAT-V2 can be applied, making use of a:

- Paint brush: with natural hair,
- Paint roll: with short hair or mohair,
- Airless spray: minimum capacity of 12 litre/minute, 1 nozzle with Ø of 0,70 to 1,35 mm (0,027" to 0,053") and nozzle pressure of ± 15 MPa (150 bar).

The standard application, on a well prepared surface, consists of 2 layers of 300 µ each (dry). Taking into account the solids content, the normal spray losses and the density, an average consumption of ± 1,2 kg/m² is anticipated.

Spraying has to be done in the approved professional manner (e.g. fluent alternating 2-D movements, spray angle of 40 to 80°), without adding solvents. Rinse the equipment regularly (e.g. styrene, MEK), especially when the temperature of the resin increases above 35 °C.

Inspect with a spark test (1MV/300 µ).

The curing time is dependent of air circulation, temperature, humidity, layer thickness, etc… Under standard conditions: dry after ± 3 hours, fully cured after ± 3 days.

Depending of the anticipated service, the desired aspect, the condition of the substrate and the practical constraints during the application, the applicator will use:

- *1, 2 or 3 layers (optimal adhesion if previous layer is not completely cured),*
- *Individual layer thickness 200 to 500 µ.*

For further information, contact a LEYCO representative.

Safety

See LEYCO-STACOAT-V2 components safety datasheets.

Storage

The shelf life of all products is 6 months under standard conditions: temperature between 15 to 25 °C, in dry well ventilated place, away from source of heat, ignition, oxidising (and/or reduction) agents and direct sunlight. Containers must be kept carefully sealed.

On customer request, LEYCO-STACOAT-V2Resin can be pre-accelerated. Its shelf life is then limited to 1 month.

Packaging

- LEYCO-STACOAT-V2 Resin: 25 kg metal canister
- LEYCO-STACCELerator-1: 2 kg metal bottle
- LEYCO-STACCELerator-3: 5 kg PE bottle
- LEYCO-STACATalyst-1: 5 kg PE bottle

On customer request, large industrial containers are available.

LEYCO CHEMISCHE LEYDE GMBH
Industriestr. 155
D-50999 COLOGNE
Tel.: +49 2236 – 9 66 00-0, Fax: +49 2236 – 9 66 00 10
leycochem@leyde.com, www.leyde.com

LEYCO-STACPRIMER-V1

Highly adhesive, non-shrink, vinyl ester based, LEYCO-STAC-V primer

Description

LEYCO-STACPRIMER-V1 is a non-shrink, modified vinyl ester based primer, especially designed to impregnate and seal the concrete substrate. It assures maximum adhesion of LEYCO-STAC-**V** (vinyl ester based) systems.

Its advantages are:

1. Easy, safe and quick application:

- Simplified mixture: 3-components,
- Consumption for a 200 µ layer is ± 250 g/m²,
- Smooth spreading by means of a paintbrush or roller.

⇨ FAST CAREFREE INSTALLATION

2. Rapid (re)utilisation:

- After 1 hour, when the primer gets sticky, the next layer of the LEYCO-STAC-**V** system can be applied.

⇨ MINIMAL PRODUCTION STOP

3. Perfect adhesion:

- Especially designed to impregnate and seal the concrete substrate,
- Assures maximum adhesion of the LEYCO-STAC-**V** system to the concrete substrate.

⇨ THE SAFE CONCRETE PROTECTION FOR ALL INDUSTRIES

Application fields

Concrete floors, walls, drains, curbs, retention basins, etc… that are protected with LEYCO-STAC-**V** systems, a.o.:

× LEYCO-STACRETE-V1	LEYCO-STACRETE-V2
× LEYCO-STACLINE-V1	LEYCO-STACLINE-V2
× LEYCO-STACLAM-V1	LEYCO-STACLAM-V2.

Surface conditioning

1. Surface preparation

The concrete substrate quality must be in line with the standard prescriptions (e.g. **moisture < 4 %**, compression strength > 25 MPa, tensile strength > 1,5 MPa). Clean the surface (e.g. sandpaper, sandblast) until it's free of dust, oil and/or 'concrete laitance'.

2. Conditions during application

Standard application is possible when the surface temperature is between 10 and 25 °C and minimum 3 °C above dew point. The air humidity should be as low as possible (< 85% RH). Measure moisture content and temperature nearby the surface to be coated.

WATER OR CONDENSATION ON THE PRIMER, BEFORE FULL POLYMERISATION, CAN PROVOKE A NON-COMPLETE CURE!

For further information, contact a LEYDE representative.

Mixing ratios

1. Resin acceleration

The anticipated resin consumption for the actual day is mixed front-end with LEYCO-STACCELerator(s). Mix ± 2 minutes with a low-speed hand mixer (± 400 rpm).

Per canister of **25** kg **LEYCO-STACPRIMER-V1 Resin**:

LEYCO-STACCELerator-1	10 °C	15 °C	20 °C	25 °C
Percentage	0,7 %	0,6 %	0,5 %	0,4 %
= Weight	175 g	150 g	125 g	100 g
= Volume (0,96 g/ml)	180 ml	160 ml	130 ml	100 ml
+ LEYCO-STACCELerator-3	**10 °C**	**15 °C**	**20 °C**	**25 °C**
Percentage	1,5 %	1,0 %		
= Weight	375 g	250 g		
= Volume (0,93 g/ml)	400 ml	270 ml		

For further information, contact a LEYDE representative.

2. Primer preparation

Mix for ± 2 minutes the accelerated resin with LEYCO-STACATalyst-1. Use hereto a low-speed hand mixer (± 400 rpm).

Per canister of **25** kg **LEYCO-STACPRIMER-V1 Resin** (accelerated):

LEYCO-STACATalyst-1	10 °C	15 °C	20 °C	25 °C
Percentage	3,0 %	2,5 %	2,0 %	1,8 %
= Weight	750 g	625 g	500 g	450 g
= Volume (1,04 g/ml)	720 ml	600 ml	480 ml	430 ml

Do not mix more products than can be applied inside the pot life. Using the above mixing ratios, the pot life is ± 25 minutes.

LEYCO-STACCELerators AND **LEYCO-STACATalysts** MAY NEVER BE STOCKED, TRANSPORTED OR DIRECTLY MIXED TOGETHER!

Application

LEYCO-STACPRIMER-V1 is applied immediately after the surface preparation, by means of a brush or roll. Dry thickness must be ± 200 µ (wet ± 250 g/m²). A full canister covers ± 100 m².

For LEYCO-STACRETE-V it is advised to scatter with dry clean quartz (e.g. LEYCO-STACRETE-V Filler).

Curing time is dependent of air circulation, temperature, humidity, layer thickness, etc…

LEYCO-STACPRIMER-V1 MUST BE STICKY BEFORE THE 'NEXT LAYER' OF **LEYCO-STAC-V** IS APPLIED: AFTER ± 1 HOUR!

The 'next layer' has to be applied inside 3 hours after priming (maximum after 24 hours if the primer is scattered).

In some cases a second primer layer has to be applied, e.g.:

- Concrete substrate is very porous and/or not completely impregnated,
- Primer is not covered with 'next-layer' inside 24 hours after application,
- LEYCO-STAC-**V** systems that require a second primer layer.

For further information, contact a LEYDE representative.

Safety

See the LEYCO-STACPRIMER-V1 components safety datasheets.

Clean utilised equipment with MEK or styrene.

Storage

The shelf life of all products is 6 months under standard conditions: temperature between 15 and 25 °C, in dry well ventilated place, away from source of heat, ignition, oxidising (and/or reducing) agents and direct sunlight. Containers must be kept carefully sealed.

On customer request, LEYCO-STACPRIMER-V1 Resin can be pre-accelerated. Its shelf life is then limited to 1 month.

Packaging

- LEYCO-STACPRIMER-V1 Resin: 25 kg metal canister
- LEYCO-STACCELerator-1: 2 kg metal bottle
- LEYCO-STACCELerator-3: 5 kg PE bottle
- LEYCO-STACATalyst-1: 5 kg PE bottle

On customer request, large industrial containers are available.

LEYCO CHEMISCHE LEYDE GMBH
Industriestr. 155
D-50999 COLOGNE
Tel.: +49 2236 – 9 66 00-0, Fax: +49 2236 – 9 66 00 10
leycochem@leyde.com, www.leyde.com

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Acetaldehyde	100 %	N.R.	N.R.	
Acetic acid	10 %	90	100	0
Acetic acid	25 %	90	100	0
Acetic acid	50 %	70	80	
Acetic acid	75 %	60	65	
Acetic acid	85 %	45	45	
Acetic acid glacial	100 %	N.R.	25	
Acetone	10 %	-	80	
Acetone	100 %	N.R.	N.R.	
Acetone : MEK : MiBK	2:2:2	-	40	
Acetonitril	all	N.R.	N.R.	
Acrylamide	50 %	-	35	1
Acrylic acid	100 %	N.R.	20	
Acrylic acid	all	45	45	
Acrylic Latex	all	80	80	
Acrylonitrile	100 %	N.R.	N.R.	
Adipic Acid	all	80	80	
Adipinonitrile	all	50	50	
Alfol 810	100 %	50	50	
Alkyl benzene sulphonic acid	all	60	60	
Alkylaminopolyglycolether	all	25	25	
Alkylaryl sulfonate salts	all	60	60	
Alkylaryl sulfonic acid	all	60	60	
Alkylarylammonium salt	all	80	80	
Alkylbenzeneammonium salt	all	80	80	
Alkylbenzenesulfonic acid	all	60	60	
Alkylnaphtolopolyglycolether	all	60	60	
Alkylolakoxylate	all	60	60	
Alkyloletherphosphate	all	25	25	
Alkylolethersulfate	all	60	60	
Alkylolsulfates and salts	all	60	60	
Alkylphenolpolyglycolether	all	25	25	
Alkylphenolpolyglycolethersulfates and salts	all	60	60	
Alkylsulfonate	all	60	60	
Alkylsulfonic acid and sulfonates	all	60	60	
Allyl alcohol	100 %	N.R.	N.R.	
Allyl chloride	all	N.R.	25	
Alpha methylstyrene	100 %	N.R.	45	
Alum	all	90	100	0
Aluminium chloride	all	90	100	0
Aluminium chlorohydrate	all	90	100	0
Aluminium chlorohydroxide	50 %	90	100	0
Aluminium citrate	all	90	100	0
Aluminium fluoride	all	45	45	2
Aluminium hydroxide	100 %	70	80	2
Aluminium nitrate	sat'd	70	80	
Aluminium potassium sulphate	all	90	100	0
Aluminium sulfate/Acetic acid	all	80	80	9

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Aluminium sulphate	all	90	100	0
Amino acids	all	40	40	
Aminosulphonic acid	all	80	80	
Ammonia (dry gas)	100 %	40	40	
Ammonia (wet gas)	100 %	40	40	
Ammonia, liquified gas	100 %	N.R.	N.R.	
Ammonium acetate	all	45	45	
Ammonium benzoate	all	80	80	
Ammonium bicarbonate	all	70	70	
Ammonium bicarbonate	sat'd	65	65	
Ammonium bifluoride	all	40	65	
Ammonium bisulphite black liquor		80	80	
Ammonium bromate	all	90	100	0
Ammonium bromide	all	90	100	0
Ammonium carbonate	all	65	65	
Ammonium chloride	all	90	100	0
Ammonium citrate	all	65	70	
Ammonium fluoride	all	65	65	2
Ammonium hydroxide (aqueous ammonia)	1 %	80	80	2
Ammonium hydroxide (aqueous ammonia)	10 %	60	65	2
Ammonium hydroxide (aqueous ammonia)	20 %	60	65	2
Ammonium hydroxide (aqueous ammonia)	29 %	40	40	2
Ammonium hydroxide (aqueous ammonia)	5 %	70	75	2
Ammonium lauryl sulphate	all	60	60	
Ammonium lignosulphonate	50 %	-	80	
Ammonium molybdate	all	40	40	
Ammonium nitrate	all	90	100	0
Ammonium oxalate	all	40	40	
Ammonium pentaborate	all	40	40	
Ammonium persulphate	all	80	80	
Ammonium phosphate, dibasic	all	90	100	0
Ammonium phosphate, monobasic	all	90	100	0
Ammonium polysulphide	all	45	65	
Ammonium sulphate	all	90	100	0
Ammonium sulphide	all	45	50	
Ammonium sulphite	all	45	65	
Ammonium thiocyanate	20 %	90	100	0
Ammonium thiocyanate	50 %	45	45	
Ammonium thiosulfate	all	60	60	
Amyl acetate	all	25	50	
Amyl alcohol (sec-)	all	50	100	0
Amyl alcohol (sec-)	Vapour	50	100	0
Amyl alcohol (tert-)	all	50	100	0
Amyl alcohol (tert-)	Vapour	50	100	0
Amyl chloride	all	N.R.	50	
Aniline	100 %	N.R.	40	
Aniline hydrochloride	all	80	80	
Aniline sulphate	all	90	100	0
Antimony pentachloride	all	40	40	
Antimony trichloride	all	80	80	

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Aqua regia (HCl:HNO3 = 3 : 1)	all	N.R.	N.R.	
Arsenic acid	all	80	80	
Arsenious acid	all	80	80	
Barium acetate	all	80	80	
Barium bromide	all	80	100	0
Barium carbonate	all	90	100	0
Barium chloride	all	90	100	0
Barium cyanide	all	60	65	
Barium hydroxide	all	60	65	
Barium nitrate	all	90	100	0
Barium sulphate	all	90	100	0
Barium sulphide	all	60	80	
Beer		45	-	
Beer sugar liquor		80	80	
Benzaldehyde	100 %	N.R.	20	
Benzene	100 %	N.R.	35	
Benzene	Vapour	N.R.	35	
Benzene sulphonic acid	50 %	60	95	
Benzene: Ethyl benzene	all	N.R.	25	
Benzoic acid	all	90	100	0
Benzoquinones	100 %	65	80	
Benzoyl benzoic acid (2-)	all	90	100	0
Benzoyl benzoic acid (4-)	all	90	100	0
Benzyl alcohol	all	25	40	
Benzyl chloride	100 %	N.R.	25	
Benzyltrimethylammonium chloride	all	60	60	
Black liquor (pulp mill)	all	80	80	
Bleach, Chlorine dioxide, wet	sat'd	50	50	5,9
Bleach, Chlorine water	sat'd	60	80	
Bleach, Chlorite	10 %	65	65	10
Bleach, Hydrosulphite		40	40	11
Bleach, Lithium hypochlorite	all	40	40	2,3,4,5,9
Bleach, Peroxide		90	100	0,12
Bleach, Sodium hypochlorite, pH > 11, active chlorine		60	60	2,3,4,5,9
Bleach, Textone	all	90	100	0,13
Bleach, Calcium hypochlorite, pH > 11, active chlorine <		40	40	2,3,4,5,9
Borax	all	90	100	0
Boric acid	all	90	100	0
Brine chlorinated (c)	al	90	100	0
Brine, salt	all	90	100	0
Bromine gas, dry		40	40	
Bromine gas, wet		40	40	
Bromine liquid	100 %	N.R.	N.R.	
Bromine water	5 %	80	80	
Butanediol (1,3-)	all	80	80	
Butanediol (1,4-)	all	80	80	
Butanediol (2,3-)	all	80	80	
Butoxydiethylene glycol	100 %	35	50	
Butoxyethanol (2-)	100 %	35	35	
Butoxyethoxyethanol (2,2-)	100 %	35	50	

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Butyl acetate (n-)	100 %	N.R.	25	
Butyl acetate (sec)	100 %	N.R.	25	
Butyl acetate (tert)	100 %	N.R.	25	
Butyl acrylate	100 %	N.R.	25	
Butyl alcohol (n-)	all	45	60	1
Butyl alcohol (sec-)	all	45	60	1
Butyl alcohol (tert-)	all	45	60	1
Butyl amine (n-)	100 %	N.R.	N.R.	
Butyl amine (n-)	50 %	25	25	
Butyl amine (sec-)	100 %	N.R.	N.R.	
Butyl amine (sec-)	50 %	25	25	
Butyl amine (tert-)	100 %	N.R.	N.R.	
Butyl amine (tert-)	50 %	25	25	
Butyl benzoate	100 %	-	25	
Butyl benzoate	all	40	60	
Butyl benzyl phthalate	100 %	80	100	0
Butyl carbitol	100 %	35	50	
Butyl cellosolve	100 %	N.R.	50	
Butyl diglycol	100 %	35	50	
Butyl stearate (5% in Mineral Spirits)		25	25	
Butylaldehyde	100 %	N.R.	35	
Butylene glycol	100 %	80	80	
Butylene oxide	100 %	N.R.	N.R.	
Butyric acid	100 %	25	40	
Butyric acid	50 %	65	65	
Butyric acid	85 %	40	50	
Cadmium chloride	all	80	90	0
Calcium bisulphite	all	80	80	
Calcium bromide	all	90	100	0
Calcium carbonate	all	90	100	0
Calcium chlorate	all	90	100	0
Calcium chloride	all	90	100	0
Calcium hydroxide	all	80	80	2
Calcium hypochlorite, pH > 11, active chlorine < 18%	all	40	40	2,3,4,5,9
Calcium nitrate	all	90	100	0
Calcium sulphate	all	90	100	0
Calcium sulphite	all	80	80	
Cane sugar liquor & sweet water	all	80	80	
Capric acid	all	90	90	0
Caprolactam	50 %	40	40	
Caprylic acid	all	90	100	0
Carbon dioxide gas		100	200	0
Carbon disulphide	100 %	N.R.	N.R.	
Carbon monoxide gas		100	200	0
Carbon tetrachloride	100 %	25	65	
Carbonic acid	all	40	40	
CARBOWAX, polyethylene glycol	100 %	80	90	0
Carboxy ethylcellulose	10 %	70	70	
Carboxy methylcellulose	all	70	70	
Cashew nut oil	100 %	80	90	0

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Castor oil	100 %	90	100	0
Cereclor 42, S-52	all	80	80	
Chloric acid	conc.	25	25	
Chlorinated lime	all	60	60	
Chlorinated waxes	all	80	80	
Chlorine	liquid	N.R.	N.R.	
Chlorine dioxide, dry	all	N.R.	N.R.	5, 9
Chlorine dioxide, wet	sat'd	50	50	5, 9
Chlorine gas, dry	100 %	90	100	0,6
Chlorine gas, wet	100 %	90	100	0,6
Chlorine water	sat'd	80	100	0
Chlorine/Hydrochloric acid, wet		N.R.	N.R.	
Chloroacetic acid	100 %	N.R.	N.R.	
Chloroacetic acid	50 %	50	50	
Chloroacetic acid	80 %	N.R.	N.R.	
Chlorobenzene	100 %	N.R.	35	
Chlorocholinchloride	75 %	70	70	
Chloroethylene (1,1,1-)	100 %	N.R.	N.R.	
Chloroform	100 %	N.R.	N.R.	
Chloroparaffin	100 %	80	80	
Chloropropionic acid (-2)	50 %	25	25	
Chloropropionic acid (-2)	all	25	25	
Chloropropionic acid (-3)	50 %	25	25	
Chloropropionic acid (-3)	all	25	25	
Chloropyridine (tetra)	100 %	N.R.	45	
Chlorosulphonic acid	10 %	N.R.	N.R.	
Chlorosulphonic acid	100 %	N.R.	N.R.	
Chlorotoluene	10 %	25	25	
Chlorotoluene	100 %	N.R.	N.R.	
Chrome plating solution	---	N.R.	55	
Chrome plating solution with sulphuric acid	---	N.R.	N.R.	
Chromic acid	10 %	60	65	
Chromic acid	20 %	50	50	
Chromic acid	30 %	N.R.	N.R.	
Chromic acid	40 %	N.R.	N.R.	
Chromic/sulphuric acid	2.5:13.7	N.R.	N.R.	
Chromic/sulphuric acid, maximum concentration mixture	10 %	50	65	
Chromium sulphate	all	90	90	0
Chromous sulphate	all	60	80	
Cinnamaldehyde	100 %	25	25	
Citric acid	all	90	100	0
Cobalt chloride	all	80	80	
Cobalt citrate	all	80	80	
Cobalt nitrate	all	80	80	
Coconut fatty acid	100 %	90	90	0
Coconut oil	100 %	90	95	0
Cod Liver Oil	100 %	25	25	
Copper acetate	all	80	80	
Copper ammonium chloride	all	80	80	
Copper cyanide	all	90	100	0

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Copper(I) chloride	all	90	100	0
Copper(I) sulphate	all	90	100	0
Copper(II) chloride	all	90	100	0
Copper(II) nitrate	all	90	100	0
Copper(II) sulphate	all	90	100	0
Corn oil	100 %	90	100	0
Corn starch slurry	all	90	100	0
Corn sugar	all	90	100	0
Cottonseed oil	all	90	100	0
Cresol (m-)	10 %	N.R.	25	
Cresol (o-)	10 %	N.R.	25	
Cresol (p-)	10 %	N.R.	25	
Crude oil, sour and sweet	100 %	90	100	0
Cyclohexane	100 %	50	60	
Cyclohexanol	100 %	40	50	
Cyclohexanone	100 %	N.R.	25	
Cyclohexylamine	100 %	25	25	
Decalin	all	60	60	
Decanes	100 %	80	80	
Decanol	100 %	60	80	
Decenes	100 %	80	80	
Deionised water	100 %	80	80	
Demineralised water	100 %	80	80	
Detergents, sulphonated	100 %	90	100	0
Di 2-ethyl hexyl phosphoric acid (in kerosene)	20 %	-	100	0
Diallyl phthalate	100 %	80	100	0
Diammonium phosphate	all	90	90	
Dibromophenol	100 %	N.R.	35	
Dibromopropanol	100 %	N.R.	N.R.	
Dibromopropanol	all	N.R.	N.R.	
Dibutyl ether	100 %	N.R.	65	
Dibutyl phthalate	100 %	80	100	0
Dibutyl phthalate	all	80	100	0
Dibutyl sebacate	all	60	65	
Dibutylamine (n-)	50 %	25	25	
Dichloroacetic acid	80 %	N.R.	25	
Dichlorobenzene (m-)	100 %	N.R.	45	
Dichlorobenzene (o-)	100 %	N.R.	45	
Dichlorobenzene (p-)	100 %	N.R.	45	
Dichloroethane	100 %	N.R.	N.R.	
Dichloroethylene	100 %	N.R.	N.R.	
Dichloromethane	100 %	N.R.	N.R.	
Dichloromethane	20 %	25	25	
Dichloropropane	100 %	N.R.	30	
Dichloropropene	100 %	N.R.	25	
Dichloropropionic acid	100 %	N.R.	N.R.	
Dichlorotoluene	100 %	N.R.	45	
Dichlorotoluene	80 %	N.R.	45	
Diesel fuel	100 %	80	90	0
Diesel fuel, no aromatics, no methanol	100 %	80	90	0

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Diethanol amine	100 %	50	50	
Diethyl amine	all	N.R.	N.R.	
Diethyl aniline N,N	100 %	N.R.	25	
Diethyl benzene	100 %	25	65	
Diethyl carbonate	100 %	N.R.	35	
Diethyl ether	100 %	N.R.	N.R.	
Diethyl formamide	100 %	N.R.	N.R.	
Diethyl ketone	100 %	N.R.	25	
Diethyl maleate	100 %	N.R.	N.R.	
Diethyl phtalate	100 %	60	80	
Diethyl sulphate	100 %	40	50	
Diethylene glycol	100 %	90	100	0
Diethylene glycol dimethyl ether	100 %	N.R.	25	
Diethylene glycol monobutyl ether	100 %	35	50	
Diethylenetriamine	100 %	N.R.	N.R.	
Diisobutyl ketone	100 %	N.R	45	
Diisobutyl phthalate	100 %	60	80	
Diisobutylene	100 %	25	25	
Diisopropanol amine	100 %	40	65	
Diisopropylamine	100 %	25	25	
Dimethyl acetamide	100 %	N.R.	25	
Dimethyl amine	100 %	N.R.	N.R.	
Dimethyl aniline	100 %	25	25	
Dimethyl formamide	100 %	N.R.	25	
Dimethyl phthalate	100 %	65	80	
Dimethyl sulphate	100 %	25	25	
Dimethyl sulphide	100 %	N.R.	20	
Dimethyl sulphoxide	100 %	N.R.	N.R.	
Dimethyl sulphoxide	20 %	N.R.	20	
Dimethylmorpholine (2,6-)	100 %	25	45	
Dinonyl phthalate	100 %	60	80	
Dioctyl phthalate	100 %	60	100	0
Dioctylsulfosuccinate sodium salt	all	80	80	
Dioxane (1,4-)	all	N.R.	N.R.	
Diphenyl ether	100 %	25	50	
Dipiperazine sulphate solution	all	40	40	
Dipotassium phosphate	all	90	90	0
Dipropylamine (n-)	50 %	25	25	
Dipropylene glycol	100 %	80	100	0
Dispersions, Copolymer Vinyl acetate/vinyl versetate	50 %	25	25	
Divinyl benzene	100 %	25	45	
Dodecanol	100 %	60	80	
Dodecene	100 %	60	80	
Dodecyl benzene sulphonic acid	all	90	100	0
Dodecyl guanidine hydrochloride	all	80	80	
Dowanol DB Glycolether	all	25	25	
Embalming fluid	100 %	45	45	
Epichlorohydrin	100 %	N.R.	25	
Epoxidised vegetable oils	100 %	90	90	0
Epoxidized Castor Oil	100 %	90	90	0

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Epoxidized Soybean Oil	100 %	90	90	0
Epoxy resins - Epikote 828	100 %	45	45	25
Esters, fatty acid	100 %	90	90	0
Ethanol amine	100 %	50	50	9
Ethyl acetate	100 %	N.R.	25	
Ethyl acrylate	100 %	N.R.	25	
Ethyl alcohol	10 %	60	65	
Ethyl alcohol	50 %	40	50	
Ethyl alcohol	96 %	40	40	
Ethyl amine	35 %	25	25	
Ethyl benzene	100 %	N.R.	40	
Ethyl bromide	100 %	N.R.	N.R.	
Ethyl chloride	100 %	N.R.	N.R.	
Ethyl ether	100 %	N.R.	N.R.	
Ethyl sulphate	100 %	N.R.	35	
Ethylene chloride	100 %	N.R.	N.R.	
Ethylene chlorohydrin	100 %	40	45	
Ethylene diaminetetraacetic acid, EDTA	all	60	60	
Ethylene dichloride	100 %	N.R.	N.R.	
Ethylene glycol	all	90	100	0
Ethylene glycol monobutyl ether	100 %	40	40	
Ethylene oxide	100 %	N.R.	N.R.	
Ethylhexanol -2	100 %	40	50	
Ethylhexylacrylate -2	100 %	25	25	
Eucalyptus oil	100 %	90	90	0
Fatty acids (C12 or higher)	all	90	100	0
Ferric acetate	all	80	80	
Ferric chloride	all	90	100	0
Ferric chloride: Ferrous chloride	5.0:20	90	100	0
Ferric chloride: Ferrous chloride: hydrochloric acid	48 : 0.2 : 0.2	90	100	0
Ferric chloride: Hydrochloric acid	29 : 18.5	80	100	0
Ferric nitrate	all	90	100	0
Ferric sulphate	all	90	100	0
Ferric sulphate : Sulphuric acid	Sat'd : 10	80	80	
Ferrous chloride	all	90	100	0
Ferrous chloride: Ferric chloride	20 : 5.0	90	100	0
Ferrous Chloride-Hydrochloric acid	all	50	50	8
Ferrous nitrate	all	90	100	0
Ferrous sulphate	all	90	100	0
Ferrous sulphate : Magnesium oxide	1 %	90	100	0
Fertiliser Uran		60	60	23
Fertiliser, 8-8-8		60	60	24
Fertilizer, Ureaammonium Cont'D 35,4% UREA		60	60	
Fluoboric acid	10 %	80	100	0,2
Fluoboric acid	15 %	70	90	0,2
Fluoboric acid	25 %	60	80	2
Fluoboric acid	Sat'd	50	70	2
Fluoride salts: Hydrochloric acid	30 : 10	50	50	2
Fluorine gas		-	20	2
Fluorocarbon 11	100 %	45	45	

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Fluosilicic acid	10 %	65	70	2
Fluosilicic acid	25 %	40	40	2
Fluosilicic acid	35 %	25	35	2
Fluosilicic acid	fumes	80	80	2
Formaldehyde	50 %	50	65	
Formamide	100 %	25	40	
Formic acid	30 %	80	80	
Formic acid	50 %	60	60	
Formic acid	85 %	25	25	
Formic acid	98 %	N.R.	N.R.	
FREON 11	100 %	25	40	
Fuel oil	100 %	90	100	0
Fuel oil, no aromatics, no methanol	100 %	90	100	0
Furfural	100 %	N.R.	N.R.	
Furfural	20 %	40	45	
Furfural	5 %	70	70	
Furfuryl alcohol	100 %	N.R.	25	
Gallic Acid	all	60	60	
Gasoline fuel	100 %	-	-	9
Gluconic acid	50 %	45	80	
Gluconic acid	all	60	80	
Glucose	all	90	100	0
Glutaraldehyde	50 %	25	50	
Glutaric acid	all	60	60	
Glycerine	100 %	90	100	0
Glycerine triacetate	all	25	25	
Glycolic acid	35 %	60	60	
Glycolic acid	70 %	25	40	
Glyme		N.R.	N.R.	
Glyoxal	40 %	40	45	
Green liquor (pulp mill)		90	100	0
Gypsum slurry; phosphoric acid;fluorine water		45	45	
Heavy aromatic naphta (HAN)	100 %	45	50	
Heptane	100 %	90	100	0
Heptene	100 %	90	100	0
Hexachlorocyclopentadiene	100 %	-	45	
Hexamethylenetetramine	60 %	40	45	
Hexane	100 %	60	70	
Hexanediol	all	90	90	0
Hexene	100 %	60	70	
Hexene (2-)	100 %	60	70	
Hexene (2-trans-)	100 %	60	70	
Hexene (3-trans-)	100 %	60	70	
Hydraulic fluid, Alkaline	100 %	25	25	
Hydraulic fluid, Neutral	100 %	90	90	0
Hydrazine	100 %	N.R.	N.R.	
Hydrazine	50 %	N.R.	25	
Hydrazine Hydrate	16 %	30	30	
Hydrobromic acid	18 %	90	100	0
Hydrobromic acid	26 %	80	80	

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Hydrobromic acid	48 %	70	80	
Hydrobromic acid	62 %	40	40	
Hydrochloric acid	18 %	90	100	0,7,8
Hydrochloric acid	21 %	80	100	0,7,8
Hydrochloric acid	25 %	65	80	7,8
Hydrochloric acid	37 %	45	65	7,8
Hydrochloric acid	fumes	90	100	0,7,8
Hydrochloric acid and organics		N.R.	50	6,8
Hydrochloric-, sulphuric and acetic acid		-	55	6,8
Hydrocyanic acid	10 %	90	100	0
Hydrofluoric acid	10 %	-	-	2,9
Hydrofluoric acid	30 %	N.R.	N.R.	2
Hydrofluosilicic acid	10 %	65	70	2,9
Hydrofluosilicic acid	25 %	40	40	2,9
Hydrofluosilicic acid	35 %	35	35	2,9
Hydrogen bromide gas, dry	all	-	80	
Hydrogen bromide gas, wet	all	80	100	0
Hydrogen chloride gas, dry	all	80	100	0,8
Hydrogen chloride gas, wet	all	80	100	0,8
Hydrogen fluoride gas, dry	all	-	-	2,9
Hydrogen peroxide	30 %	40	40	
Hydrogen peroxide	5 %	65	65	
Hydrogen sulphide, gas	100 %	80	100	0
Hydrogen sulphide, gas	5 %	80	180	0
Hydroxyacetic acid	35 %	60	60	
Hydroxyacetic acid	70 %	25	40	
Hydroxybenzenesulfonic acid	all	60	60	
Hypochlorous acid	all	25	25	
Hypophosporous acid	50 %	50	50	
Iodine	cristals	65	65	
Iodine	vapour	-	80	
Isoamyl alcohol	100 %	40	50	
Isobutanol	all	60	60	
Isobutyl alcohol	100 %	50	50	
Isobutyl alcohol	all	60	60	
Isobutyl alcohol	all	60	60	
Isodecanol	100 %	60	65	
Isodecanol	20 %	60	65	
Isononyl alcohol	100 %	60	65	
Isononyl alcohol	all	60	65	
Isooctyl adipate	100 %	80	80	
isooctyl alcohol	100 %	60	65	
isooctyl alcohol	all	60	65	
Isopropyl alcohol	100 %	50	60	
Isopropyl alcohol	all	50	60	
Isopropyl amine	50 %	25	25	
Isopropyl myristate	100 %	90	100	0
Isopropyl palmitate	100 %	90	100	0
Isopropyl sulfate	all	25	25	
Itaconic acid	40 %	60	60	

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Itaconic acid	sat'd	50	50	
Jet fuel	100 %	-	-	9
Jojoba oil	100 %	80	80	
Kerosene	100 %	-	-	9
Lactic acid	10 %	80	80	
Lactic acid	80 %	25	25	
Latex, Alkaline	all	25	25	
Latex, Paint emulsion	all	40	50	
Latex, PVA emulsion	all	40	50	
Latex, Rubber emulsion	all	40	50	
Lauric acid	all	90	100	0
Lauroyl alcohol	all	90	90	0
Lauroyl chloride	all	50	50	
Lauryl alcohol	all	90	90	0
Lauryl chloride	all	50	50	
Lauryl ether sulfate	all	60	60	
Lauryl mercaptan	all	90	90	0
Lead acetate	all	80	100	0
Lead chloride	sat'd	90	100	0
Lead nitrate	all	90	100	0
Levulinic acid	all	90	100	0
Lignin sulphate, PH 3-7	all	80	80	
Ligninsulfonate sodium salt	all	80	80	
Linoleic Acid	all	90	90	0
Linolenic Acid	all	90	90	0
Linseed oil	100 %	90	100	0
Liquid sugar	all	80	80	
Lithium bromide	all	90	100	0
Lithium carbonate	all	60	80	
Lithium chloride	all	90	100	0
Lithium hydroxide	all	40	40	2,9
Lithium hypochlorite	all	40	40	2,3,4,5,9
Lithium sulphate	all	90	90	0
Magnesium bicarbonate	all	80	80	
Magnesium bisulphite	all	80	80	
Magnesium carbonate	15 %	80	80	
Magnesium carbonate	sat'd	65	65	
Magnesium chloride	all	90	100	0
Magnesium fluosilicate	37.5	40	60	2
Magnesium hydroxide	all	90	100	0,2
Magnesium nitrate	all	90	100	0
Magnesium silicofluoride	37.5	40	60	2
Magnesium sulphate	all	90	100	0
Maleic acid	all	90	100	0
Maleic anhydride	100 %	90	100	0
Manganese sulphate/sulphuric acid	90:10	80	100	0
Manganese(II)chloride	all	90	100	0
Manganese(II)nitrate	all	90	100	0
Manganese(II)sulphate	all	90	100	0
Maple Syrup	all	80	80	

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Melamine Resins	all	25	25	
Mercaptoacetic acid	all	N.R.	30	
Mercaptopropionic -2	10 %	80	80	
Mercuric chloride	all	90	100	0
Mercuric nitrate	all	90	100	0
Mercurous chloride	all	90	100	0
Mercury	100 %	90	120	0
Methacrylic acid	40 %	25	25	
Methane sulphonic acid	all	40	40	
Methanol = Methyl alcohol	100 %	N.R.	35	
Methanol = Methyl alcohol	5 %	25	40	
Methoxyethylacetate	100 %	N.R.	N.R.	
Methyl bromide, gas	10 %	N.R.	N.R.	
Methyl ethyl ketone	100 %	N.R.	N.R.	
Methyl isobutyl ketone	100 %	N.R.	25	
Methyl methacrylate	100 %	N.R.	N.R.	
Methyl styrene	100 %	N.R.	45	
Methyl-2-Pentanediol-2,4	100 %	90	90	0
Methylamine	100 %	N.R.	N.R.	
Methylaniline	100 %	-	40	
Methylcellosolve	100 %	N.R.	N.R.	
Methylchlorophenoxyacetic acid (MCPA)	100 %	25	25	
Methylchlorophenoxypropionic Acid (MCPP)	100 %	25	25	
Methyldiethanolamine	100 %	50	50	
Methylene bromide	100 %	N.R.	N.R.	
Methylene chloride	0.2	25	25	
Methylene chloride	100 %	N.R.	N.R.	
MethyleneBlue Salts PH 2-5.5, aq	all	60	60	
Methylpentanol-2 (ethylhexanol)	100 %	40	50	
Milk and milk products	all	70	70	
Mineral Oils	100 %	90	100	0
Molasses & invert molasses (2<pH<9)	100 %	80	80	
Molybdic acid	100 %	-	-	
Monochloroacetic acid	100 %	N.R.	N.R.	
Monochloroacetic acid	50 %	50	50	
Monochloroacetic acid	80 %	N.R.	N.R.	
Monochlorobenzene	100 %	N.R	35	
Monoethanol amine	100 %	50	50	
Monomethylhydrazine	100 %	N.R.	N.R.	
Morpholine	100 %	N.R.	25	
Motor oil	100 %	90	120	0
Muriatic acid (see hydrochloric acid)				
Mustard	all	-	-	
Myristic acid	all	90	100	0
Naphtalene	100 %	80	100	0
Naphtanoic acid (1-)	all	25	25	
Naphtanoic acid (2-)	all	25	25	
Naphtha	100 %	90	90	0
Naphtha, heavy aromatic	100 %	45	50	
Naphthylamine-1-sulphonic acid (2-)	all	-	100	0

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Neopentyl glycol	100 %	65	65	
Neopentyl glycol	80 %	60	60	
Nickel chloride	all	90	100	0
Nickel nitrate	all	90	100	0
Nickel sulphate	all	90	100	0
Nicotinic acid	all	45	45	
Nitric acid	15 %	65	65	
Nitric acid	2 %	90	100	0
Nitric acid	20 %	50	50	
Nitric acid	30 %	40	40	
Nitric acid	5 %	65	80	
Nitric acid	50 %	N.R.	25	
Nitric acid	60 %	N.R.	N.R.	
Nitric acid	fumes	80	80	
Nitric acid/chromic acid	15 : 3.0	N.R.	-	9
Nitric acid: hydrofluoric acid	8.0 : 4.0	-	-	9
Nitrobenzene	100 %	N.R.	35	
Nitrogen tetroxide	100 %	N.R.	N.R.	
Nitrous Acid	10 %	25	25	
N-Methyl-2-Pyrrolidone	100 %	N.R.	N.R.	
N-Methyl-2-Pyrrolidone	3 %	40	60	
NMP	100 %	N.R.	N.R.	
NMP	3 %	40	60	
Nonanes	100 %	90	90	0
Nonenes	100 %	90	90	0
Octane	100 %	90	90	0
Octanoic acid (see caprylic acid)	100 %	90	100	0
Octanol (2-)	100 %	50	50	
Octanol (DL-2-)	100 %	50	50	
Octanol (DL-3-)	100 %	50	50	
Octanol (L-2-)	100 %	50	50	
Octanol (n-)	100 %	50	50	
Octene	100 %	90	90	0
Octylamine (2-)	100 %	-	45	
Octylamine (n-)	100 %	-	45	
Octylamine (tert-)	100 %	-	45	
Oil, sour and sweet crude	100 %	90	100	0
Oils (Grease, Lube, Vegetable)	100 %	90	90	0
Oleic acid	all	90	95	0
Oleum (fuming sulphuric acid)		N.R.	N.R.	
Olive oil	100 %	90	100	0
Orange oil	100 %	80	80	
Oxalic acid	all	90	100	0
Ozone gas	all	N.R.	N.R.	9
Palm oil	100 %	80	90	0
Palmitic acid	100 %	90	100	0
Palmitoyl chloride	all	50	50	9
Paper Mill Effluent		-	-	9
Paraffin Wax	100 %	90	90	0
Peanut Oil	100 %	90	90	0

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Pentane	100 %	50	50	
Pentanedioic acid	all	60	80	
Pentasodium triphosphate	10 %	90	100	0
Pentene	100 %	50	50	
Perchloric acid	10 %	65	65	
Perchloric acid	30 %	35	35	
Perchloric acid	70 %	25	25	
Perchloroethylene	100 %	40	50	
Peroxide Bleach	dil	90	100	0
Phenol	< 1	25	50	
Phenol	< 5	N.R.	25	
Phenol	> 5	N.R.	N.R.	
Phenolformaldehyde resin	all	40	50	
Phenolsulphonic acid	all	25	25	
Phosphoric acid	all	90	100	0
Phosphoric acid (P_2O_5, HCL, H_2S, SO_2)	fumes	-	-	9
Phosphoric acid, (polymeric 115% phosphoroic acid)		90	100	0
Phosphoric acid, (super 105% phosphoric acid)		90	100	0
Phosphorous acid	70 %	25	35	
Phosphorous trichloride	100 %	N.R.	N.R.	
Phossy water		-	-	
Phthalates/Phthalate esters	all	60	60	
Phthalic acid	100 %	90	100	0
Phthalic acid	all	90	100	0
Phthalic anhydride	100 %	90	100	0
Picric acid	10 %	25	45	
Pine oil	100 %	90	90	0
Pine oil disinfectant	100 %	50	50	
Piperazine dihydrochloride	all	-	45	
Plating solution, Cadmium		-	100	1,14
Plating solution, Chrome		N.R.	55	1,15
Plating solution, Copper		-	80	
Plating solution, Gold		-	100	0,16
Plating solution, Lead		-	100	0,2,17
Plating solution, Nickel		-	100	0,18,19
Plating solution, Platinum		-	100	0
Plating solution, Siver		-	100	0,2
Plating solution, Tin		-	100	0,2,21
Plating solution, Zinc		-	100	0,2,22
Pluronic Surfactant 25R-2	all	60	60	
Polyacrylamide	all	25	35	
Polyester Resins	100 %	N.R.	25	
Polyethylene glycol	100 %	60	60	
Polyols	100 %	60	60	
Polyvinyl acetate emulsion	all	40	50	
Polyvinyl alcohol	all	80	80	
Potassium aluminium sulphate	all	90	100	0
Potassium amyl xanthane	5 %	-	-	
Potassium bicarbonate	10 %	70	70	2
Potassium bicarbonate	50 %	45	45	2

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Potassium bromate	all	90	100	0
Potassium bromide	all	90	100	0
Potassium carbonate	10 %	65	65	2
Potassium carbonate	25 %	45	65	2
Potassium carbonate	50 %	40	45	2
Potassium chlorate	all	90	100	0
Potassium chloride	all	90	100	0
Potassium chromate	all	90	100	0
Potassium cyanide	all	60	60	
Potassium dichromate	all	90	100	0
Potassium ferricyanide	all	90	100	0
Potassium ferrocyanide	all	90	100	0
Potassium fluoride	all	60	60	2
Potassium gold cyanide	12 %	-	35	
Potassium hydroxide	1 %	65	65	2,3
Potassium hydroxide	10 %	65	65	2,3
Potassium hydroxide	25 %	45	65	2,3
Potassium hydroxide	45 %	40	40	2,3
Potassium hydroxide	conc	40	40	2,3
Potassium iodide	all	60	65	
Potassium nitrate	all	90	100	0
Potassium nitrite	all	90	100	0
Potassium oxalate	al	60	60	
Potassium permanganate	all	90	100	0
Potassium persulphate	all	90	100	0
Potassium phosphate (dibasic)	all	90	100	0
Potassium phosphate (monobasic)	all	90	100	0
Potassium phosphate (tribasic)	all	90	100	0
Potassium pyrophosphate	60 %	90	90	0
Potassium silicofluoride	all	25	35	2
Potassium sulphate	all	90	100	0
Propanol (1-)	100 %	60	60	
Propanol (2-)	100 %	60	60	
Propionic acid	100 %	N.R.	35	
Propionic acid	40 %	60	80	
Propylamine n or iso	50 %	25	25	
Propylene glycol 1,2	all	90	100	0
Pyridine	100 %	N.R.	N.R.	
Quarternary ammonium salts	> 25	65	65	
Quarternary ammonium salts	25 %	80	80	
Rayn spin bath		-	60	
Ref. Fuel C (Isooctane/Toluene)	100 %	25	25	
Renex detergents	all	-	65	26
Rosin Sizes		90	90	0
Salicylaldehyde	100 %	25	25	
Salicylic acid	all	60	65	
Salt brine (see sodium chloride)	all	90	100	0
Selenious acid	all	80	100	0
Sewage Municipal	all	-	-	9
Silicone Oils or Greases	100 %	90	90	0

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Silver cyanide	all	90	100	0
Silver nitrate	all	90	100	0
Soaps	all	60	60	
Sodium acetate	all	90	100	0
Sodium alkyl aryl sulphonate	all	80	80	
Sodium aluminate	all	60	65	
Sodium benzoate	all	60	80	
Sodium bicarbonate	all	80	80	2
Sodium bicarbonate : Sodium carbonate	15.0 : 20.0	80	80	2
Sodium bifluoride	all	40	40	2
Sodium bisulphate	all	90	100	0
Sodium bisulphite	all	90	100	0
Sodium borate	all	90	100	0
Sodium borohydride : Sodium hydroxide	12.0:48.0	-	-	
Sodium bromate	all	90	90	0
Sodium bromide	all	90	100	0
Sodium bromide : Sodium bromate	20.0:20.0	90	100	0
Sodium butyl xanthane	5 %	65	65	
Sodium carbonate	10 %	60	80	2
Sodium carbonate	35 %	60	80	2
Sodium chlorate	all	90	100	0
Sodium chloride	all	90	100	0
Sodium chlorite	10 %	65	65	
Sodium chromate	50 %	90	100	0
Sodium cyanide	15 %	60	60	
Sodium cyanide	5 %	90	100	0
Sodium dichromate	all	90	100	0
Sodium dihydrogen phosphate	all	80	80	
Sodium diphosphate	100 %	80	100	0
Sodium dodecyl benzene sulphonate	all	80	80	
Sodium ethyl xanthane	5 %	-	-	
Sodium ferricyanide	all	90	100	0
Sodium ferrocyanide	all	90	100	0
Sodium fluoride	all	80	80	2
Sodium fluosilicate	all	40	50	2
Sodium hexametaphosphate	all	80	80	
Sodium hydrosulphide	all	80	80	
Sodium hydrosulphite	all	40	40	
Sodium hydroxide	1 %	60	70	2,3
Sodium hydroxide	25 %	60	70	2,3
Sodium hydroxide	5 %	60	70	2,3
Sodium hydroxide	50 %	90	100	0,2,3
Sodium hydroxide-Chlorine gas		-	-	2,3,4,5,9
Sodium hypochlorite, pH > 11	16% Cl	40	40	2,3,4,5,9
Sodium lauryl sulfate	all	60	70	
Sodium monophosphate	all	90	100	0
Sodium nitrate	all	90	100	0
Sodium nitrite	all	90	100	0
Sodium orthophosphate (see Trisodium phosphate)	all	90	100	0
Sodium oxalate	all	90	100	0

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Sodium persulphate	all	25	25	
Sodium phosphate	all	90	100	0
Sodium polyacrylate	all	65	80	
Sodium silicate	all	90	100	0
Sodium sulphate	all	90	100	0
Sodium sulphhydrate	all	80	80	
Sodium sulphide	all	90	100	0
Sodium sulphite	all	90	100	0
Sodium tartrate	all	90	100	0
Sodium tetraborate	all	90	90	0
Sodium thiocyanate	all	90	90	0
Sodium thiosulphate	all	90	90	0
Sodium tridecylsulphate	all	90	90	0
Sodium triphosphate	all	90	100	0
Sodium tripolyphosphate	all	90	100	0
Sodium xylene sulphonate	all	60	100	0
Sorbitol solutions	all	90	90	0
Soy sauce		-	-	
Soya oil	100 %	90	90	0
Soybean oil	100 %	-	100	0
Span surfactant	all	-	-	26
Spearmint oil	100 %	90	90	0
Stannic chloride	all	90	100	0
Stannous chloride	all	90	100	0
Stannous Sulfate	all	80	80	
Starch 4 < pH < 9	all	90	100	0
Stearic acid	all	90	100	0
Styrene	100 %	N.R.	40	
Succinic acid	all	80	80	
Succinonitril (aqueous)	all	80	80	
Sucrose	all	80	100	0
Sulphamic acid	10 %	90	100	0
Sulphamic acid	25 %	65	65	
Sulphanilic acid	all	80	100	0
Sulphated detergents	all	60	60	
Sulphite/sulphate liquors (pulp mill)		80	90	0
Sulphonated detergents	all	60	80	
Sulphonyl chloride, aromatic	all	N.R.	N.R.	
Sulphur	100 %	-	150	0
Sulphur chloride	all	N.R.	N.R.	
Sulphur dichloride		N.R.	N.R.	
Sulphur dioxide gas, dry	all	70	80	
Sulphur dioxide gas, wet	all	70	80	
Sulphur trioxide gas		-	-	9
Sulphuric acid	1 %	90	100	0
Sulphuric acid	10 %	90	100	0
Sulphuric acid	25 %	90	100	0
Sulphuric acid	5 %	90	100	0
Sulphuric acid	50 %	90	100	0
Sulphuric acid	70 %	75	80	

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Sulphuric acid	75 %	40	50	
Sulphuric acid	93 %	N.R.	N.R.	
Sulphuric acid	Fuming	N.R.	N.R.	
Sulphuric acid : Ferrous sulphate	10 : sat'd	90	90	0
Sulphuric acid : Phosphoric acid	10 : 20	80	80	
Sulphurous acid	10 %	45	45	
Sulphuryl chloride	100 %	N.R.	N.R.	
Superphosphoric acid (76% P2O5)	105 %	90	100	0
Tall oil	100 %	65	100	0
Tannic acid	all	90	100	0
Tartaric acid	all	90	100	0
Tetrachloroethane	100 %	N.R.	40	
Tetrachloroethylene	100 %	50	50	
Tetrachloropentane	100 %	-	35	
Tetrachloropyridine	100 %	-	35	
Tetraethyleneglycol dimethylether	100 %	-	-	
Tetrapotassium pyrophosphate	5 %	90	100	0
Tetrapotassium pyrophosphate	60 %	50	65	
Tetrasodium ethylenediaminetetraacetate	all	60	60	2
Tetrasodium pyrophosphate	5 %	90	100	0
Tetrasodium pyrophosphate	60 %	50	65	
Textone		-	100	0,13
Thioglycolic acid	10 %	50	50	
Thioglycolic acid	100 %	N.R.	30	
Thioglycolic acid	80 %	N.R.	30	
Thionyl chloride	100 %	N.R.	N.R.	
Tobias acid	all	-	100	0
Toluene	100 %	N.R.	45	
Toluene diisocyanate	100 %	25	25	
Toluene sulphonic acid	all	90	100	0
Transformer oils	100 %	90	135	0
Tri-(2-chloroethyl) phosphate	all	25	25	
Tributyl phosphate	100 %	25	60	
Tributylamine -N	all	25	25	
Trichloroacetaldehyde	100 %	N.R.	N.R.	
Trichloroacetic acid	50 %	90	100	0
Trichlorobenzene	100 %	25	25	
Trichloroethane	100 %	N.R.	40	
Trichloroethylene	100 %	N.R.	N.R.	
Trichloromonofluormethane	100 %	N.R.	35	2
Trichlorophenol	100 %	N.R.	N.R.	
Tricresyl phosphate	100 %	60	70	
Tridecylbenzene sulphonate	all	90	100	0
Triethanol amine	100 %	50	50	
Triethanol amine lauryl sulphate	all	-	-	
Triethyl amine	100 %	40	50	
Triethylene glycol	100 %	80	80	
Trimethyl amine	100 %	25	25	
Trimethyl amine hydrochloride	sat'd	25	25	
Trimethylene chlorobromide	100 %	N.R.	N.R.	

LeycoChem LEYDE

Chemical Corrosion Resistance List

Chemical	Concentration	Maximum Temperature LEYCO STAC-V1	Maximum Temperature LEYCO STAC-V2	Note
Triphenyl phosphate	100 %	60	60	
Triphenyl phosphite	100 %	60	60	
Tripropyl amine -N	all	25	25	
Tripropylene glycol	100 %	60	60	
Trisodium phosphate	all	90	100	0
Tritolyl phosphate	all	60	60	
Tung Oil	100 %	90	90	0
Turpentine	all	65	100	0
Tween surfactant	all	65	75	26
Ultrawet surfactant	all	65	80	27
Uran fertiliser		60	60	24
Uranium extraction		-	-	
Urea	all	60	65	
Urea : ammonium nitrate : water	35 : 44 : 20	60	65	
Urea Formaldehyde Resins PH < 7	all	25	25	
Varsol solvent	100 %	-	-	29
Vegetable Oils	100 %	90	100	0
Versene (NaEDTA)	all	60	60	27
Vinegar	-	-	-	
Vinyl acetate	100 %	N.R.	N.R.	
Vinyl chloride	100 %	N.R.	N.R.	
Vinyl toluene	100 %	N.R.	45	
Water, Condensate	100 %	80	80	
Water, Deionised	100 %	80	80	
Water, Demineralized	100 %	80	80	
Water, Distilled	100 %	80	80	
Water, Sea	100 %	90	100	0
Water, Steam	100 %	80	80	
Whisky		-	-	
White liquor (pulp mill)		-	-	9
Wine		-	-	
Xylene	100 %	N.R.	45	
Xylene (m-)	100 %	N.R.	45	
Xylene (o-)	100 %	N.R.	45	
Xylene (p-)	100 %	N.R.	45	
Zeolite	all	-	-	
Zinc chlorate	all	60	60	
Zinc chloride	all	90	100	0
Zinc cyanide	all	80	80	
Zinc nitrate	all	90	100	0
Zinc sulphate	all	90	100	0
Zinc sulphite	all	80	80	