Civilox® - LV100

LIQUIMIX construction chemicals

Very low-viscosity, fast curing 100% solids Epoxy Sealer

PRODUCT DESCRIPTION

A two-part, very low-viscosity, 100% solids, surface-tolerant epoxy, designed to deeply penetrate, strengthen and seal concrete surfaces. Civilox - LV100 has outstanding water and chemical resistance and is the recommended concrete sealer for use under Civilox - HB200 and Tufflon P80 and P90 Polyurea.

INTENDED USES

- Sealing concrete prior to coating with Civilox – HB200 epoxy or Tufflon polyurea
- Concrete water tanks, reservoirs, sewerage treatment plants
- Concrete bunds, Podiums, Balconies, Planter Boxes, Rooftops, Car Parks
- Rendering or Patch Filling when mixed with fine, graded sand

FEATURES

- Seals concrete surfaces
- Prevents pinholing in polyurea
- Excellent adhesion to concrete
- Tolerant of substrate moisture
- Fast cure at ambient temperature
- Full cure down to 0°C
- Outstanding water resistance
- 100% solids (non-flammable)
- Mix with sand for patch and render
- Convenient 1:1 by volume mix ratio

PRODUCT DATA

Volume Solids	100%
Theoretical Coverage	5 Square meters / Litre
Finish	Pigmented
Colour	Light Grey
Gloss	High Gloss
Mixing Ratio	1:1 by volume
Potlife	30 Min @ 25°C (100mls mix)
Typical Thickness	200 Microns wet to soak into concrete
Cleaner	Xylene
Flash Point	>180 Degree C
VOC	0 Grams/Litre
Specific Gravity	1.12

CURE & RECOAT

Substrate Temp	Tacked	Hard Dry	Full Cure Note 1	Minimum Recoat Time Note 2	Maximum Recoat Time Note 3
10°C	12 Hrs	24 Hrs		12 Hrs	12 Days
15°C	10 Hrs	14 Hrs		10 Hrs	6 Days
25°C	5 Hrs	7 Hrs	7-14 Days	5 Hrs	3 Days
40°C	2 Hrs	3.5 Hrs		2 Hrs	1 Days
Note 1:	Pulloff Adhesion testing is best conducted after 3 Days cure				
Note 2:	Or when the film has tacked				
Note 3:	Where the coating is exposed to direct sun and UV, the maximum recoat time will be considerably reduced. Contact LiquiMix for advice				

ENGINEERING DATA

Property	Method	Results
Hardness	Shore D	60
Elongation at 25°C	ASTM D412 06ae2	1-2%
Abrasion Resistance	ASTM c501-84, H18 wheel @ 1,000rpm with 1,000g weight	98
Tensile Strength	ASTM D412-92	16.0 MPA
Tear Strength	ASTM 412-92	98N.mm

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POTLIFE

Mixed Product Temp	Gel Time: 100 mls mix
10°C	60 min
15°C	45 min
25°C	30 min
40°C	10 min

LIMITATIONS

- Expect some colour change and surface chalking over time for exposed Civilox – LV100.
- May bubble or crater when applied to concrete that is outgassing from rising temperatures or high moisture content. To minimise this, apply a thin coat first and work it well into the surface, making sure all pores and holes are filled.
- Mixing too much at once will shorten the pot-life. On large areas, pour the mixed product directly onto the concrete and then roll it in.
- Product requires up to 14 days to develop full physical properties and adhesion. Pulloff or other adhesion testing might not produce accurate results during this period.

SURFACE PREP

Concrete

The concrete should be at least 28 days old. Ensure that the moisture content of the concrete is less than 7% before applying any coatings. A moisture test as outlined in ASTM D4262 can be used to confirm the moisture content

1. Prepare the concrete surface to a clean, dry finish.
2. Ensure that any laitance or other invisible contaminants have been removed. Be especially careful with concrete surfaces that have been in contact with formply or moulds that may contain release agents. These release agents commonly containing heavy hydrocarbon waxes or silicones that can adversely affect the adhesion of Civilox – LV100
3. Fill big holes with PU sealant or Civilox – LV100 mixed with Patchfill.
4. Render exposed aggregate back to the original profile with a mixture of Civilox – LV100 and Renderfill.
5. Remove high spots and protrusions, radius sharp edges and corners. Cove internal 90 degree angles with 45 degree, 20mm flat chamfer.
6. Smooth, shiny concrete should be roughened to a profile similar to 80 grit sandpaper or CSP 3, 4 or 5. Preferred method of doing this is with Vapour Abrasive Blasting. However other methods such as dry abrasive blasting and grinding may also be employed.
7. For more detailed information consult the application guidelines.

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APPLICATION

Equipment

Large and small areas:	Preferred method is Roller
Alternative application:	Plural component equipment from Graco that automatically meters and mixes Civilox – LV100 such as Graco XM or the Graco XP
Temperature of material at gun:	Ambient

Environment

Relative humidity :	<80%
Dew point:	>5°C above substrate temperature
Substrate Temperature:	>5°C

Mixing

Always stir Civilox – LV100 Part A (light grey coloured epoxy resin) and Civilox – LV100 Part B (Clear) in its original container well before use.
Mechanically mix (by volume) 1 Part of Civilox – LV100 Part A with 1 Part of Civilox – LV100 Part B hardener (1:1). Do not vary from this ratio. Do not attempt to part mix and make up the entire mix.
Avoid entrapping air during mixing.
Graco makes a range of specialised plural component equipment that automatically meters and mixes Civilox – LV100. Request more information from LiquiMix.

Thinning

Thinning of Civilox – LV100 is not considered necessary or desirable due to its already very low mixed viscosity. However, where deep penetration is required, Civilox thinners may be added to a maximum of 10% of mixed part A and part B. Often the first coat of Civilox – LV100 is thinned thereby allowing it to penetrate deep into the substrate. The final coat should always be unthinned. Please observe the ventilation requirements and flammability hazard created by using thinner in Civilox – LV100.

Cleanup

Xylene may be used for general cleanup of equipment and hoses. For soaking of contaminated metal parts use SWELL. Keep all gun part A side components in soak containers on the left side of the work bench and all part B side components on the right side of the work bench. The use of plastic soak containers with clip on lids and removable baskets makes the job easier. Replace the SWELL regularly as soon as it starts turning cloudy and dirty.

Concrete

Mix the two components well and apply with a suitable paint roller or spray using plural spray equipment such as Graco XM or XP. Work the product well into the concrete to seal the open pores.
Depending on the quality and porosity of the concrete up to three coats of Civilox – LV100 may be required in order to minimise pin-holing in the subsequent application of Tufflon. A minimum of two coats is required for permanent immersion applications. For best results apply Civilox – LV100 in the evening when the concrete is cooling down and not outgassing. The topcoat can be applied as soon as the Civilox – LV100 is tacked or the following morning when the Civilox – LV100 is cured.
Avoid the ponding of the Civilox – LV100 and roll out areas where the there is too much sealer sitting on the concrete surface.

Note

DO NOT POND Civilox – LV100

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COMPATIBILITY

Primers	Civilox – LV100
Topcoats	Tufflon - P60 Tufflon - P90

TYPICAL SYSTEM

Substrate	Environment	Substrate Prep	Coat	System	DFT
Concrete	Tank Internal	Vapour Abrasive Blast	1st Coat	Civilox – LV100	200µ
			2nd Coat	Civilox – LV100	50µ
			3rd Coat	Tufflon	3000µ

STORAGE & HANDLING

Store in dry, shaded conditions away from sources of heat and ignition and in properly sealed containers Protect from heat and frost.
A shelf life of 18 months minimum is typical if stored under ambient conditions at 25 °C

If crystallisation occurs, heat the material to 70°C whilst agitating to melt it. On no account should the materials be heated above 70°C. Storage temperatures above 40°C are not recommended since they can accelerate the formation of insoluble solids and increase the viscosity. If either component is opened and partially used, it should be purged with nitrogen or desiccated air and resealed.

PACK SIZE

40L Kits
20L of Civilox – LV100 Part A
20L of Civilox – LV100 Part B

8L Kits
4L of Civilox – LV100 Part A
4L of Civilox – LV100 Part B

HEALTH & SAFETY

Civilox – LV100 is for professional use only.
This product should not be used without consulting the Safety Datasheets first.
Please observe all health and safety as well as environmental legislation.

NOTICE

The information contained herein is offered without charge and is for use by technically qualified personnel at their own risk. All statements, technical information and recommendations contained herein are based on tests and data which we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and no warranty of any kind is made with respect thereto.