



# LANKO 731

## CONCRETE REPAIR MORTAR

A NON-SHRINK FIBRE REINFORCED REPAIR MORTAR

### WHERE TO USE

Davco Lanko 731 Concrete Repair Mortar is a high strength, ready to use, polymer modified repair mortar composed of sand, special cement, fibres and admixtures. It is designed for the repair of spalled and damaged concrete in civil installations where very high compressive strengths are required. Lanko 731 Concrete Repair Mortar is compatible with 65 MPa structural concrete.

### Uses

Suitable for the repair of concrete surfaces damaged due to spalling caused by poorly compacted concrete, incorrectly positioned rebars, corrosion of rebars, cracking, settling, honeycombing or incorrect placement techniques. For use in areas exposed to of aggressive agents such as carbon dioxide, exhaust fumes, chloride salts, frost, seawater spray. Also suitable for concrete restructuring of pillars, pylons, slabs, posts, beams, dam aprons and spillways.

### PRODUCT INFORMATION

#### Coverage

20kg bag of Lanko 731 Concrete Repair Mortar covers approximately 2.5m<sup>2</sup> at 5mm thickness

#### Application

5-50mm thickness

#### Set Time

Final set 3 hours

### FEATURES & BENEFITS

- Thixotropic – easy to mix and place with non-slump in vertical and overhead work
- Excellent resistance to cracking - shrinkage compensated
- High initial and final mechanical strength allows damaged areas to be reinstated earlier

### PACKAGING

Available in a 20kg bag



MADE IN  
AUSTRALIA

## TECHNICAL

TECHNICAL DATA		LANKO 731
Appearance	Grey powder	
Shelf life when stored unopened in elevated, cool, dry location and protected from high humidity	12 months	
Active ingredients including hydraulic binders and synthetic fibres	Chloride and metal particle free	
Particle size	0-2mm	
Apparent powder density	1.36	
½ Abrams slump cone measurement	1-5cm	
TEST	CRITERION	TYPICAL TEST RESULT
<b>Setting time*</b> (*Average laboratory values provided as general guide)		
	Initial set at 5°C	7 hours
	Initial set at 20°C	2 hours
	Initial set at 35°C	1 hour
Plastic consistency	Final set at 5°C	8.5 hours
	Final set at 20°C	3 hours
	Final set at 35°C	1.5 hours
<b>Test method: EN196.1</b>		
<b>Flexural strength*</b> (*Tests carried out on 4 x 4 x 16 samples kept at 20°C immersed in water. Average laboratory values provided as a general guide)		
	2 days	7 MPa
	7 days	10 MPa
	28 days	12 MPa
<b>Test method: EN 12190</b>		
<b>Compressive strength*</b> (*Tests carried out on 4 x 4 x 16 samples kept at 20°C immersed in water. Average laboratory values provided as a general guide)		
	2 days	35 MPa
	7 days	45 MPa
	28 days	65 MPa
<b>Bonding strength at 28 days</b>		
Tensile bonding on rough concrete in accordance with standards EN 1542	> 3 MPa	
<b>Test method: RMS T363</b>		
Alkali reactive particles	<0.1% (Non-reactive)	

### Bonding

The tensile bonding test consists of pulling a 1cm coating of mortar from a concrete slab in compliance with French Standard NF P18-858 and NF P18-859. Bonding strength at 28 days = 3.3 MPa. (CEBTP Report N° B 144.6.411). French standard - Surface Repairs "Class 3".

### Impact resistance

The impact resistance test consists of dropping a 500g steel ball from a height of 1m onto a concrete slab coated with Lanko 731 Concrete Repair Mortar in compliance with French Standard NF P18-860. (CEBTP Report N° 89/3113-6-064).

### Accelerated carbonation

Carbonation measured to 0.8mm tested in accordance with EN 13295. Tests carried out at Applus laboratory (Report N° 07/32302732).

### Chipping resistance

Lanko 731 Concrete Repair Mortar was subjected to chipping resistance tests compliant with French Standard NF PR 18-420 - resistance of product to frost in the presence of de-icing salts. The results of the aforementioned test show an excellent durability of the product (Ref: SCETAROUTE Report).

### Severe frost resistance

Lanko 731 Concrete Repair Mortar was subjected to exposure to severe frost tests compliant with French Standard NF PR 18-424. The results show excellent resistance to frost exposure (Ref: SCETAROUTE Report).



Davco products manufactured in Australia are produced in accordance with quality management systems certified as complying with AS/NZS ISO 9001:2008.

Quality  
ISO 9001  
SAI GLOBAL



## DIRECTIONS FOR USE

- A test should be undertaken in all cases to ensure suitability
- Small trial batches to ascertain the best working consistency for the operation are recommended

## SURFACE PREPARATION

- Remove loose and damaged concrete and laitance using a point tool, chisel, or planing tool in order to obtain a clean, rough surface
- Clear out concrete around corroded rebars in order to create space for inserting the product behind and around them
- The boundaries of the surface to be repaired must be clearly defined by chiseling or diamond blade grinding to a depth of 5mm minimum. Avoid feather edging
- The substrate must be free of all traces of grease and oil

- Brush, scrape or sandblast corroded rebar in order to remove non-adherent rust. Steel surfaces must be left with a bright finish - see Primer Preparation guidelines
- Dust off all surfaces to be repaired
- Soak the substrate with water prior to application

## PRIMER PREPARATION

- Previously corroded rebar should be passivated using a slurry mix of 2 parts Lanko 731 Concrete Repair Mortar and 1 part Lanko 751 Lankolatex
- Ensure that all necessary surface preparation work has been meticulously carried out
- Soak the substrate with water prior to application
- Remove any excess water with dry rags or compressed air
- In general, flooding the repair area with water as described above is sufficient to ready the surface for application of Lanko 731 Concrete Repair Mortar
- To increase adhesion of Lanko 731 Concrete Repair Mortar, prime all areas to be repaired with a slurry mix of Lanko 731 Concrete Repair Mortar and Lanko 751 Lankolatex as per above. Ensure that the slurry is brushed well into the surface
- Apply Lanko 731 Concrete Repair Mortar before the slurry tacks off

## MIX PREPARATION

### Mix Ratio

SITUATION / REQUIREMENT	MIX REQUIREMENTS PER 20KG
General applications	2.8L of clean, potable water

- Machine for 3 minutes at a minimum until evenly distributed
- The use of a Festo type electric drill mixer is preferred. Do not mix at fast speeds which could entrain air into the mortar
- Mix at no faster than 300 RPM
- Workable life after mixing is approximately 45 minutes at 20°C
- No water must be added during application

### Yield

POWDER QUANTITY	WATER	WORKABLE MORTAR
20kg	2.8L	10.4L

## APPLICATION

1. Apply a tight first pass of Lanko 731 Concrete Repair Mortar with a stainless steel trowel or gloved hand, pressing firmly to ensure bonding. For large surfaces, the mortar may be applied by machine spray (wet process).
2. If large repair works are being undertaken, and suitable spray equipment is being used, ensure that all Surface Preparation and Primer Preparation instructions are followed.
3. It is essential that all exposed steel reinforcement bars are fully surrounded by the mortar. This placement is eased via the use of gloved hands.

5. Apply additional mortar to obtain the desired overall thickness.
6. Skim off any excess mortar with a suitable straight edge or steel trowel.
7. Allow to set for a period of time before finishing with a steel trowel or foam float to achieve the desired finish.
8. Lanko 731 Concrete Repair Mortar can be applied up to a thickness of 50mm in one application or 100mm in several applications.
9. In the event that 2 applications are required, resoak the mortar prior to application and carry out the second application within 24 hours of the first.

## Curing

- All Lanko 731 Concrete Repair Mortar installations must be wet cured. This will result in denser and stronger material

## Clean-up & Return to Service

- Clean mixing and application equipment with water immediately after use

## PRECAUTION

### Safety

- SDS is available from [www.davcoaustralia.com.au](http://www.davcoaustralia.com.au)
- It is recommended that applicators wear PVC or similar gloves and safety goggles while handling this product
- If eye contact occurs, rinse with cool water
- If ingested get immediate medical assistance

### General

- Do not use when temperatures are below 5°C or above 35°C
- Do not apply to a frozen or thawing substrate
- Apply only to clean, sound substrates, free of loose material

### Specific

- Cracks should be treated separately
- Soak the substrate before application
- After finishing, protect the mortar from drying out by dampening without soaking
- Do not mix Lanko 731 Concrete Repair Mortar with other hydraulic binders such as portland cement, high alumina cement, plaster etc
- For other uses not mentioned in these instructions, please visit [www.davcoaustralia.com.au](http://www.davcoaustralia.com.au)

## REFERENCE DOCUMENTS

- SOCOTEC Technical Appraisal N° TX 3021
- Approved for contact with drinking water
- Standard P 18 840 - Surface Repairs “Class 3”
- SCETAURROUTE Registered:
  - Interior freezing
  - Salt scale resistant (freeze / thaw cycles)
  - NF Standards

## LEGAL NOTES

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