



Chem Coats (Pvt) Ltd.

ChemDermix 725 & 725TX

Polyester Resin Grout

DESCRIPTION

ChemDermix 725 (three-component) and 725-TX (two-component) are polyester resin grouts for a variety of anchoring applications.

USES

These polyester resin grouts are formulated to provide high-strength chemical-resistant grouting and anchoring of bars, bolts and other embedded objects into concrete, high strength masonry, brick and rock. They are also used when early loading is required such as in starter bars, holding down bolts, anchors, fence and general fixing of steel.

ChemDermix 725-pourable

Vertical anchoring where the hole diameter is less than 25 mm greater than the bar diameter.

ChemDermix 725TX-paste

A thixotropic paste used for horizontal vertical and overhead anchoring where the hole diameter is less than 25 mm greater than the bar diameter.

The strength of the bond and ultimately the anchor depends on a number of factors:

- Bar size and surface profile
- Key profile in the concrete and the shape of the hole
- Bond surface area
- Substrate material strength

These resin anchors should not be used when structural integrity of the anchor is expected to be maintained during a fire or excessive heat conditions.

FEATURES & BENEFITS

- Can be placed in a damp hole
- Rapid curing and strength gain
- May be used where vibration on bolts is a problem
- Corrosion resistant
- Can be applied underwater
- Easy to apply with pourable consistency
- The pour grades are very easy to apply
- These grouts will adhere to damp surfaces

HOLE PREPARATION

For effective bond between the resin and the substrate ensure that the hole provides sufficient key or that smooth holes have been undermined. The optimum depth of the hole can be determined from Fig.1 for holes in concrete. Ensure that the hole is free from laitance, oils and grease and that any previous coatings have been removed.

Minimum factors of safety of 2 should be used in critical areas and 1.5 in non-critical areas.



PROPERTIES

Test method	Result ChemDermix 725 & 725TX
Compressive strength ASTM C109	30 & 25 Mpa at 1 hour
Compressive strength ASTM C109	65 & 60 Mpa at 2 hours
Compressive strength ASTM C109	90 & 83 Mpa at 24 hours
Gel time at various temps (mins)	90 for all at 10° C
Gel time at various temps (mins)	35 for all at 25° C
Gel time at various temps (mins)	13 for all at 35° C
Anchorage strength (tonnes). Tested using a reinforcing bar anchored into a 32 mm steel pipe	
A	B
16 mm dia re-bar x 0,5 m grout depth	25 mm dia re-bar x 0.25 m grout depth
A - @ 45 mins	B - @ 45 mins
A - 10 @ 1 hour	B - 7 @ 1 hour
A - 14* @ 2 hours	B - 15 @ 2 hours
* Note: Re-bar failure	

ANCHOR BAR PREPARATION

Anchor bars must be either threaded or ribbed high tensile steel.

They are to be degreased with suitable chemicals and all rust and other loose particles. A metallic finish is to be achieved by grit blasting to SA2.5.

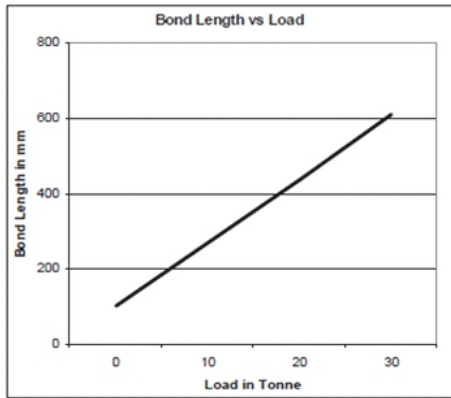


Fig 1: Bond length – practical load/bond lengths for 25 mm bars in 20 Mpa concrete.

Coverage				
The volume of grout in litres per 100 mm of hole depth				
Holediameter(mm)	Bolt diameter(mm)			
	12	16	20	25
20	0.020			
25	0.038	0.029	0.018	
32	0.069	0.060	0.049	0.031
38		0.093	0.082	0.064
45			0.128	0.110
51				0.155
57				0.206
64				0.273
76				

Note: Allowance for wastage should be made when estimating

Coverage				
The volume of grout in litres per 100 mm of hole depth				
Holediameter(mm)	Bolt diameter(mm)			
	32	38	44.5	51
20				
25				
32				
38	0.033			
45	0.079	0.046		
51	0.124	0.091	0.049	
57	0.175	0.142	0.100	0.510
64	0.241	0.208	0.166	0.117
76		0.340	0.298	0.249

Note: Allowance for wastage should be made when estimating

MIXING

To provide the correct consistency and strength the contents of the **ChemDermix** kit has been pre-measured and should under no circumstances be part mixed. The entire contents of the powder component should be emptied into the mixing vessel followed by the resin component.

Ideally a suitable paddle on a slow speed drill should be used to blend the two components until an even consistency is achieved. Small quantities can also be mixed by hand.

The mixed material should then be folded over to reveal any unmixed powder and mixing re-commencing for a further 2 minutes to ensure a totally homogenous mix. Be sure to scrape the sides and bottom of the mixing container.

APPLICATION

ChemDermix 725 should be carefully poured into the holes prepared as already described. The volume required can be calculated from the tables on the previous page. The bolt or bar is then placed into the hole, turning it to agitate the material as it is inserted to release any trapped air and to thoroughly wet the steel, aiding adhesion.

The bar should be propped into position in the center of the hole and left unmoved until the resin has set.

ChemDermix 725TX should be placed in the back of the hole using a suitable cartridge with a fluid hose attached. The bolt to be introduced in the same manner as in the **ChemDermix 725** application.

CLEANING

Tools may be cleaned with **ChemCoats** Super brush cleaner immediately after use before the material has had time to cure.

MODEL SPECIFICATIONS

ChemDermix 725

Pourable polyester resin grout for vertical down anchoring of bolts and bars into concrete, rock and needed. Up to 25 mm.

The grout will be **ChemDermix 725**, a three- component, polyester resin grout applied in accordance with the recommendations of **Chem Coats Construction Chemicals**. The cured grout will achieve a compressive strength of 90 MPA in 24 hours.

ChemDermix 725TX

Thixotropic polyester resin grout for and masonry where early loading is overhead and horizontal anchoring of bolts and bars into concrete, rock needed. The grout will be **ChemDermix 725TX**, a two-component, thixotropic, polyester resin grout applied in accordance with the recommendations of **Chem Coats Construction Chemicals**. The cured grout will achieve a compressive strength of 83 Mpa in 24 hours.

TEMPERATURE

As with all resins, the mixture may not be applied to substrates at a temperature lower than 5° C. At ambient temperatures above 35° C, working time and pot life will be drastically shortened.



Chem Coats (Pvt) Ltd.

PACKAGING

These grouts are supplied as:

ChemDermix 725 – 1 and 5 litre kits.

ChemDermix 725TX – 1 and 5 litre kits.

HANDLING & STORAGE

These products have a shelf life of 12 months at 20° C. This will reduce at higher temperatures. The product should be kept in a dry store in its original sealed container.

HEALTH & SAFETY

Wet **ChemDermix** could be toxic and flammable. Always ventilate the working area well during application and drying. **ChemDermix 725** and **725TX** are flammable therefore naked flames, including smoking by the applicators, must be avoided. Always use protective equipment such as clothing, gloves and eye protection when working with the material. Avoid excessive inhalation and skin contact.

In case of contact with the skin remove with resin removing cream and soap and water. Do not use solvents.

If material is splashed in the eye, wash with copious quantities of clean water and seek immediate medical attention. Flash point is 29°C.

Cured **ChemDermix** is inert and harmless.

IMPORTANT NOTE

The information given in this data sheet is based on current development work and many years of field experience. Whilst every effort is made to ensure that the information is reliable, we cannot accept responsibility for any work carried out with our materials as we have no controls over methods of applications, site conditions etc. In view of the continuing research and development being undertaken in our laboratories we advise customers in their own interest to ensure that this data sheet has not been superseded by a more up-to-date publication. All products are sold subject to our standard conditions of sale which are available on request. Field services, where provided, does not constitute supervisory responsibility. For additional information, please contact your local **ChemCoats** Representative.

RANGE OF PRODUCTS

<u>WATERPROOFING SYSTEMS</u> <u>INDUSTRIAL FLOOR SURFACES</u> <u>PROTECTIVE COATINGS</u>	<u>PREPACKED REPAIR MORTARS</u> <u>CEMENTITIOUS & EPOXY GROUTS</u> <u>CONCRETE ADMIXTURES</u>	<u>SEALANTS</u> <u>CRACK INJECTION</u> <u>CONCRETE ADHESIVE</u>
--	---	---