

CONCRESlVE® 1441

Epoxy Bonding paste

DESCRIPTION

CONCRESlVE 1441 is an epoxy resin based bonding system available in two grades for use in two different ranges of concrete surface temperature.

CONCRESlVE 1441S for 25°C to 40°C.

CONCRESlVE 1441W for 4°C to 30°C.

Note : **CONCRESlVE 1441S** was formerly known as CONCRESlVE 1440.

Both the grades are two part systems. The two parts are distinctly coloured to facilitate proper mixing - a white coloured Part 'A' and a black coloured Part 'B', which on correct mixing in the ratio 2:1 (A:B) by volume, yields a uniformly grey coloured bonding paste.

FIELDS OF APPLICATION

CONCRESlVE 1441 is recommended for bonding two rigid elements exposed to sustained loads especially at the bond line, such as;

- bonding precast bridge elements.
- bonding external steel reinforcing plates for strengthening beams, columns, slabs.
- anchoring bolts, dowels, steel bars in concrete, etc.
- bonding the ends of concrete or metal pipes used to transport water or sewage.

FEATURES AND BENEFITS

High elastic modulus	Effective transfer of stresses at bond interface.
High HDT (heat deflection temp)	Resistance to creep even at high service temperatures.
Thixotropic	No loss of bond due to sagging of bond film.
High bond strengths	Durable bond.
Good bond to damp surfaces	Advantage in humid environments.
Long open time	Sufficient time for alignment and bonding of elements.

TYPICAL PERFORMANCE DATA

(in N/mm² after 7 days cure)

	1441 W	1441 S
Tensile strength	10	10
Compressive strength	88	83
Elastic modulus In Compression	5,500	4,600
Slant shear strength	>35 (100% concrete failure)	>35 (100% concrete failure)

PROPERTIES

	1441 W	1441 S
Supply form Parts A & B	Viscous paste	Viscous paste
Colour	Part A	White
	Part B	Black
	mixed	Grey
Density (mixed)	1.37 kg/L	1.25 kg/L
Heat deflection temperature (ASTM D648)	67°C	63°C
Min. application temperature	4°C	26°C
Surface temperature for application	4-30°C	25-40°C
Non sag thickness	3 mm	3 mm
Min. pot life. (2 L)	20 Mins @29°C	20 Mins @40°C
	60 Mins @29°C	60 Mins @40°C
Min. open time.	60 Mins @29°C	60 Mins @40°C
Initial cure	24 hrs	24 hrs
Cure time	7 days	2 days

APPLICATION

Surface preparation

Correct substrate preparation is critical for optimum performance. Surfaces should be structurally sound, clean, and free from loose particles, oil, grease, or any other contaminants.

Remove oil grease and wax contaminants by scrubbing with industrial grade detergent or degreasing compounds followed by mechanical cleaning.

Remove cement laitence, loose particles, mould release agent, curing membrane, and other contaminants from the surface by wet grit blasting, high pressure water jetting (approximately 150 bars) or such other effective methods.

If surface irregularities exist, apply CONCRESlVE 1438 epoxy paste as a fairing coat.

For smoothing deep surface irregularities, use CONCRESlVE 1438 mixed with graded sand in the ratio 1:1 by weight.

Mixing

Mechanical mixing is necessary. A slow speed (600 rpm) drill with a grout stirrer is recommended.

Mix the entire contents of both Part A and Part B containers together to avoid batching errors.

However, if part mixing is necessary, stir each component individually and then measure out precisely

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CONCRECRESIVE[®] 1441

each component in the proper volumetric ratio into a clean, dry pail for subsequent mixing. Ensure that the remaining contents of each container are not contaminated.

Mix Part A and Part B together until the streaks of Black and White disappear to yield a homogenous Grey mix.

Prepare both the surfaces that are to be bonded on the above lines.

Placing

If the surface has been treated with fairing coat as described above, allow the fairing coat to set and within 24 hours apply **CONCRECRESIVE 1441** on one of the two surfaces being bonded.

Apply **CONCRECRESIVE 1441** within its pot life to a thickness of 1 mm to 3 mm using a trowel, so as to allow for a small quantity of the bonding material to extrude out of the bond line when pressure is applied to bond the two surfaces.

The prepared surfaces of the two rigid elements to be bonded should be brought together within the open time of the product and retained in position until **CONCRECRESIVE 1441** cures.

CLEANING

Clean the tools and equipment first with rags, then wipe off using a solvent such as acetone, or methylene chloride before the bonding agent hardens.

ESTIMATING DATA

Material requirement is 1 L/m² at 1 mm thickness.

PACKAGING

Both **S** and **W** grades of **CONCRECRESIVE 1441** are available in the following packs;

Pack size	Part A	Part B
1L	0.67 L	0.33 L
20L	13.33 L	6.67 L

SHELF LIFE

CONCRECRESIVE 1441 can be stored in tightly sealed original packing for 12 months, if stored at a temperature below 34°C.

PRECAUTIONS

Health : **CONCRECRESIVE 1441** contains certain chemicals which can cause skin irritation if exposed and respiratory reaction if inhaled. Wear gloves, masks and use barrier creams while handling the product. Wash thoroughly after handling.

Should skin contact occur wash immediately with soap and water, or an effective hand cleaner.

In case of accidental eye contact wash with copious quantity of water and seek medical help immediately.

If ingested, do not induce vomiting. Consult doctor immediately.

The vapours of solvents used for cleaning can be irritating. It is therefore recommended that cleaning is done in well ventilated areas

Fire : **CONCRECRESIVE 1441** is combustible. Avoid exposure to naked flame. Do not smoke while handling the product.

Flash point : 90°C

For detailed Health, Safety and Environmental recommendations, please consult and follows all instructions in the product Material Safety Data Sheet.

STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF Construction Chemicals** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

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AN/CS1441/v2/310309