ARDEX CE 501

Segmental Bonding Adhesive

Non sag

High modulus

Long pot life

Excellent adhesion to concrete

High initial and ultimate strength

Excellent squeezability

No shrinkage

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DESCRIPTION
ARDEX CE 501 Segmental Bonding Adhesive is a 2-component, highly thixotropic epoxy adhesive, specially formulated for bonding and joint sealing post-tensioned precast segments in bridge construction.

RECOMMENDED USES
- Bonding joints of prefabricated sections of bridges
- Repair of surface defects

ADVANTAGES
- High initial and early strength gain
- Excellent sag resistance
- Excellent bonding to concrete
- Long open time
- Seals effectively
- Provides good load transfer

SURFACE PREPARATION
The substrate must be clean, sound, and free from all grease, oil, dust, laitance, and other surface contaminants such as curing membranes. Damaged or contaminated concrete must be removed to obtain a good bond to the substrate. The substrate must be prepared correctly to remove all the deteriorated and detached concrete until a strong substrate with a rough surface is obtained. Any areas which are not perfectly bonded must also be removed. The moisture content of the concrete surface must be below 5%.

MIXING
Stir Part A (base compound) well using a paddle-type stirrer for about 1 – 2 minutes. Scrape the contents of Part B into the Part A tin while mixing. Mix thoroughly for 3 – 5 minutes using a slow-speed drill (400 – 600rpm) fitted with a paddle-type stirrer until the streaks of black and white disappear to achieve a homogeneous grey mix.

APPLICATION
Apply ARDEX CE 501 Segmental Bonding Paste to each surface of two bonding segments using a trowel or protected hand. Spread from the top to the bottom in the same direction to a thickness of 1 – 2mm in general, depending on project requirements. Make sure the application is finished within 30 minutes after mixing. Clean up the extruded adhesive from the joint.

PAY ATTENTION TO THE FOLLOWING:
1. Improper mix ratio or insufficient stirring may compromise the performance of the product.
2. Avoid prolonged exposure to direct sunlight as this may shorten the potlife of the mix.

PACKAGING
ARDEX CE 501 is packed in metal tins, available in 4kg and 8kg set.

STORAGE AND SHELF LIFE
ARDEX CE 501 has a shelf life of 12 months when stored in the original, unopened packaging in a dry and cool place at 23°C and 50% relative humidity.

CLEAN UP
All tools and equipment shall be thoroughly washed with xylene after operations for that day are completed.

TECHNICAL DATA

Mixing Ratio By Weight Part A (White) : Part B (Black)	3 : 1
Application Temperature	25°C to 40°C

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Characteristics	Test Method	Test Results
Color	-	Color matching precast concrete
Density	-	1.7 ± 0.1 g/ml
Potlife @ 30°C	FIP 5.1 : 1978	≥ 60 minutes
Open Time @ 30°C	FIP 5.2 : 1978 (Adopted ASTM C78 : 2021)	≥ 60 minutes
Thixotropy @ 40°C	FIP 5.3 : 1978	Non-sagging at 5mm thickness
Squeezability, mm^2 @ 25°C	FIP 5.4 : 1978 (Adopted ASTM BS EN 1799 : 1999)	150N ≥ 3000 2000N ≥ 7500 4000N ≥10,000
Shrinkage	FIP 5.7 : 1978 (Adopted BS EN 12617-4 : 2002)	≤ 0.1%
Heat Resistance	FIP 5.10 : 1978 (ASTM D648 : 2018)	≥ 50°C
Water Absorption	FIP 5.9 : 1978 (Adopted ASTM C431 : 2018)	≤ 0.5%
Solvability	FIP 5.9 : 1978 (Adopted ASTM C 431 : 2018)	≤ 0.1%
Curing Rate @ 25°C 12 hours 24 hours 7 days	FIP 5.12 & 5.6 : 1978 (Adopted BS EN 12190 : 1999)	Compressive Strength ≥ 30 MPa ≥ 60 MPa ≥ 75 MPa
Creep Modulus in Compression -Instantaneous -Deferred 1 hour @ 25°C	FIP 5.8 & 5.13 : 1978 (Adopted BS 1881: Pt 121 : 1983)	 ≥ 8500 MPa ≥ 6500 MPa
Flexural Strength @ 25°C	FIP 5.5 & 5.14 : 1978 (Adopted ASTM C78 : 2021)	≥ 5.8 MPa 100% substrate failure
Shear Strength @ 25°C	FIP 5.15 : 1978 (Adopted ASTM C882/C882M : 2013a)	≥ 16 MPa 100% substrate failure

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SAFETY PRECAUTIONS

ARDEX CE 501 materials should not come into contact with the skin and eyes or to be swallowed. Ensure adequate ventilation and avoid inhalation of vapors. Wear suitable gloves, goggles and other protective clothing. The use of barrier creams can provide additional skin protection. When working in confined areas suitable respiratory equipment must be used. In case of contact with skin, rinse with plenty of clean water then wash with soap and water. Do not use solvent. In case of contact with eyes, rinse immediately with plenty of clean water, and then seek medical atten
tion without delay. If swallowed, seek medical attention straight away, do not induce vomiting. The Safety Datasheet (SDS) is available at www.ardex-quicseal.com

DISPOSAL/SPILLAGE

Please refer to the Safety Data Sheet for the safe handling, storage and disposal of chemical product.

DISCLAIMER:

The technical datasheets are based on the latest information and given in good faith and represent the best of our knowledge and experience at the time of printing. They are primarily offered for user's consideration and evaluation. It is the responsibility of the user to conduct their own tests to validate the suitability of the products. It is also the responsibility of the user to ensure that the products are used and handled correctly and in accordance with any applicable standards, the product instructions and recommendations and only for the uses they are intended. As we have no control over site conditions and the execution of the work, we accept no liability for any loss or damage which may rise as a result thereof. We also reserve the right to update the information at any time without prior notice to you to reflect our ongoing research and development program.

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