PRODUCT DATA SHEET

PRO-STRUCT®

501DP FLOW ENHANCED

FIVE STAR DEEP POUR PRECISION EPOXY GROUT

LOW EXOTHERN IN LARGE VOLUME PLACEMENTS
EXPANSIVE, NON-SHRINK PER ASTM C827
HIGH EARLY STRENGTH
EXCELLENT CREEP RESISTANCE
LONG WORKING TIME
CHEMICAL RESISTANT

PRODUCT DESCRIPTION:

A 3 component, solvent-free epoxy aggregate filled expansive non-shrink grout designed to have low exotherm, allowing for large volume placements. The graded aggregate blend and resin to aggregate ratio results in a high early compressive strength which is extremely stable under dynamic loads.

USES:

- Single large volume placement, 13mm to 230mm deep or up to 1,4m^3.
- Foundation rebuilds and skid mounted equipment.
- Precision alignment under dynamic load conditions.
- Vibration dampening for rotating equipment.
- Support of chemical tanks, vessels and rotating equipment.
- Aggressive chemical environments.
- Installation of anchors and dowels.

PACKAGING & COVERAGE:

14,4 Litre kit Part A, B and C
0.36m² at 40mm thick per 14,4 litre kit

SURFACE PREPARATION:

All surfaces to be in contact with Five Star DP Epoxy Grout shall be free of oil, grease, laitance and other contaminants. Concrete must be clean, sound, dry and roughened to ensure a good bond. Surfaces should be prepared in accordance with 1 or 3 of "Surface Preparation Methods". Provide a SSPC-SP6 commercial finish on all metal surfaces to ensure proper adhesion when required.

TEMPERATURE CONDITIONS:

Do not attempt to install material if the temperature of the surfaces is not within 16 to 32°C. The cure time and application properties are severely affected – refer to extreme conditions.

FORMS AND ISOLATION JOINTS:

Formwork shall be constructed of rigid non-absorbent materials, securely anchored, liquid tight and strong enough to resist forces developed during grout placement. The clearance between formwork and baseplate shall be 75 to 125mm to allow for headbox. The clearance for remaining sides shall be 25 to 50mm. Areas where bond is not desired must be treated with paste wax or polyethylene lined. Isolation joints should be placed at 1,2 metre centres.

TYPICAL PROPERTIES AT 25°C

Colour	Dark Grey
Consistency	Semi-pourable
Volume Solids	100%
Number of Components	3
Mix Ratio by Volume	Mix complete kit
Pot Life	50 to 70 Minutes
Apply Over	Prepared roughened concrete
Apply By	Pouring into formwork
Initial Set	4 Hours at 25°C
Service	24 Hours
Full Cure	7 Days
Application Temperature Range	16°C to 32°C
Maximum Service Temperature	60°C
Clearances	13-230mm
Height Change ASTM C-827	Positive Expansion
Effective Bearing Area	95%
Creep, ASTM C-1181 1 Year (2.8 MPa) (60°C)	4.3 x 10^{-3} mm /mm
Tensile Strength ASTM C-307	13.8 MPa
Flexural Strength ASTM C-580	27.6 MPa
Coefficient of Expansion ASTM C-531	32 x 10^{-6} mm /mm/°C
Bond to Concrete ASTM C-882	Concrete failure

Compressive Strength ASTM C-579B	**Compressive Strength MPa**	**Compressive Modulus MPa**
1 Day	62.1	9.7 x 10^3
7 Days	89.7	13.1 x 10^3
Post cured at 60°C	100.3	13.8 x 10^3

Shelf Life	12 Months

MIXING:

For optimum performance, all components should be conditioned to between 21°C and 27°C prior to use. Add all the activator components to the base components. Mix thoroughly by slow speed mixer for 3 minutes to avoid air entrapment. Pour mixed

liquids into mortar mixer. While mixing, slowly add Component C (aggregate) and mix only until aggregate is completely wet. Working time is approximately 60 minutes when temperatures are at 25°C.

METHOD OF PLACEMENT:
Five Star DP Epoxy Grout may be placed from one side to the other, maintaining contact with the bottom of the baseplate at all times. For clearances greater than 230mm and/or more than 1,4m^3, call the StonCor Technical Resources at 011 254 5500.

POST-PLACEMENT PROCEDURES:
Final finishing of exposed surfaces is aided by using a solvent-wiped trowel just before material becomes unworkable. In-service operation may begin immediately after minimum required grout strength and modulus have been achieved.

CLEAN-UP:
Clean equipment immediately after use with Pro-Struct 105 Cleaner and rinse with clean water. Sand may be used as an abrasive.

LIMITATIONS:
- Flowability and strength gain are adversely affected by lower temperatures.
- For placement temperatures below 16°C or above 32°C, refer to Extreme Weather Conditions.
- To obtain bond, concrete shall be visibly free of surface moisture.
- Do not add solvents to increase flowability.
- For continuous operating temperatures exceeding 82°C, contact the StonCor Technical Recourses.
- Construction practices dictate concrete foundation, which should achieve its design strength before grouting.

EXTREME WEATHER CONDITIONS
COLD:
Low temperatures decrease flow, delay set and strength development of epoxy products. The procedure below will compensate for these conditions:
- Materials shall be conditioned for 16 hours so that placed grout is between 21°C and 27°C. All surfaces in contact with grout shall be preconditioned and maintained between 16°C and 27°C for at least 16 hours. Heated enclosures must be windproof and weatherproof. Heaters shall not be permitted to unevenly heat concrete, nor contaminate the concrete with exhaust fumes. Grout temperature shall be maintained above 16°C until grout reaches minimum required strength. Gradually reduce grout temperature to ambient to avoid thermal shock.

HOT:
High temperatures accelerate set, decrease working time, and accelerate strength gain of epoxy products. The procedure below will compensate for these conditions.

- Materials shall be conditioned for 16 hours so that placed grout is between 21°C and 27°C. All surfaces in contact with grout shall be preconditioned and maintained between 16°C and 27°C and may best be done at night. Shade application areas from direct sunlight and pour grout when temperatures are decreasing. When other cooling methods are used, extreme caution shall be taken to insure all surfaces in contact with grout are completely dry before grouting. Grout shall remain shaded and protected for at least 16 hours after placement.

PRECAUTIONS:
Use materials in strict accordance with the manufacturer's Material Safety Data Sheet. Protective clothing and equipment will significantly reduce risk of injury. Body coverage apparel, safety goggles and impermeable gloves are recommended. In case of contact, flush with copious amounts of water and seek medical attention. Dispose of waste materials and containers in strict accordance with Government Regulations.

NOTE: Prior to application, read all product data sheets and packaging thoroughly. For more detailed placement procedures, contact StonCor Technical Resources at 011 254 5500.