



# MARINE GRADE SCRC

Marine Grade Self-Consolidating Remediation Concrete (SCRC)

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## 1. Product Description

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**Marine Grade SCRC** a marine grade self-consolidating remediation concrete composes of cement, sand and aggregates blended with **SPT KPA Reactive Powder**. **SPT KPA Reactive Powder** is a pre-packaged ready-to-use enhancer for high performance and durability. It is specifically designed for high flowability, non-segregating concrete that can spread into place, fill the formwork, and encapsulate reinforcement without the need for any mechanical consolidation. The high-performance characteristics of **Marine Grade SCRC** is derived from its specially designed and unique chemical composition.

**Marine Grade SCRC** is suitable for structural remediation and rehabilitation of concrete structures such as bridges, buildings, dams, hydraulic structures, power stations, industrial facilities, marine structures, tunnels, and water and wastewater treatment plant facilities. It is also recommended for use concrete over exposure of time. **Marine Grade SCRC** enhances workability localized repair works where single placing is in excess of 50mm thickness.

**Marine Grade SCRC** also provides excellent chloride penetration resistance to concrete structures from reinforcement corrosion including other detrimental effects on

and flowability when used as a repair material for formwork grouting.

With the added enhancers, **Marine Grade SCRC** has the ability to fill voids in structures which are heavily reinforced and in need of repair thus eliminating the possibility of segregation or honeycombing.

## 2. Packaging and Shelf Life

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The packaging consists of **Part A: SPT KPA Reactive Powder** which is supplied in one pail weighing 11.4Kg and **Part B: KPA Liquid** which is supplied in a 2.5 litre Jerry can.

As typical with all cementitious materials, **SPT KPA Reactive Powder** must be stored in dry conditions, off the ground, unopened, undamaged and protected from direct sunlight temperatures and exposure. When stored dry in its original packaging, it will retain its properties for at least 12 months.

## 3. Technical Data

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**SPT KPA Reactive Powder** along with a combination of cement, sand and aggregates has the ability to perform as a high-performance concrete. With its near zero shrinkage and bleeding properties, and initial setting time (~3.5 hours).

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**Marine Grade SCRC** has unique performance characteristics as a repair material. With its high bond and tensile strength, it is designed to be strong and durable.

Description	Results
Flow Spread	> 620mm
Flexural Strength	5.5 MPa
Water Absorption	< 2.3%
Chloride Permeability	< 800 Coulombs
Bond Strength	20 MPa
Bleeding	No Bleeding
Compressive Strength (MPa)	
At 3 <sup>rd</sup> day	> 30 MPa
At 7 <sup>th</sup> day	> 40 MPa
At 28 <sup>th</sup> day	> 60 MPa

#### 4. Guidelines for Application

##### A) Mixing Ratio

Water-cement ratio (0.4-0.45) shall be adjusted to suit site conditions.

##### B) Mixing Method

All dry ingredients such as cement, sand and aggregates are mixed in a mechanical mixer to achieve a homogenous mix prior to the addition of **SPT KPA Reactive Powder (Part A)** followed by **KPA Liquid (Part B)** and recommended quantity of water.

##### C) Application Details

General application guidelines are presented below.

- **Marine Grade SCRC** is specially designed for formwork grouting where placement by gravity pour or pump is recommended.
- Preparation of substrate shall be in accordance with best practice.
- **SPT KPA Reactive Powder and SPT Liquid** shall be mixed with potable water, Ordinary Portland Cement, sand, and aggregates in the prescribed ratio.
- If formwork type repair is used, leave the formwork in place for at least 3 days. Upon removal of the formwork, cure the exposed surfaces immediately with wet hessians.
- The mixer shall be cleaned after every batching to remove residuals that may affect the overall product performance.

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