

## Technical Datasheet

# Xtreme WR 400 Pave

A new generation polycarboxylate-based, ultra range water reducing superplasticizers with the Zero Energy System

### Product Description

Xtreme WR 400 Pave, an advanced, third-generation superplasticizers engineered with innovative polycarboxylic ether polymer technology. This next-generation admixture revolutionizes the hydration process of cement, enabling rapid adsorption onto cement particles and ensuring efficient dispersion. This unique molecular design exposes a greater surface area of cement grains, resulting in accelerated heat development during hydration and the rapid formation of hydration products. As a result, Xtreme WR 400 Pave delivers significantly higher early-age strength, providing superior performance in demanding concrete applications.

Xtreme WR 400 Pave is the ideal solution for producing precast concrete elements with fluid consistency, exceptional workability, and no segregation, all while maintaining a low water-cement ratio. Its self-compacting properties allow for easy placement even in densely reinforced sections, eliminating the need for vibration and making it perfect for complex precast projects.

Xtreme WR 400 Pave is integral to our **Zero Energy System**, an innovative approach that merges the power of Xtreme WR 400 Pave with Rheodynamic concrete technology.

This system is designed to transform the production process for precast manufacturers and road paving projects by optimizing efficiency, significantly reducing energy consumption, and improving overall product quality.

With the Zero Energy System, you can streamline operations, lower costs, and improve the working environment—all while delivering top-tier precast concrete solutions.

### Advantages

- Accelerated Hydration for Rapid Strength Development.
- Enhanced Workability and Fluidity.
- Self-Compacting Properties.
- High Early and Long-Term Strength.
- Energy Efficiency with Zero Energy System.
- Environmental Impact.
- Better Working Conditions.
- Optimize curing cycles by reducing both curing time and temperature.
- Eliminate heat curing while maintaining early and ultimate compressive and flexural strengths.

### Shelf Life

Xtreme WR 400 Pave has a minimum shelf life of 12 months under shaded area. Must be protected from direct sunlight and frost.

### Dosage

For paving strength concrete: 0.25 to 2.50 liter/ 100 Kg of total cementitious material @ 25° C.

**Dosages outside this range can be used to produce particular mix requirements, provided that extensive trial mixes and laboratory have been conducted.**

### Product Properties

<b>Consistency</b>	Liquid
<b>Color</b>	Clear - Pale Yellow
<b>Specific Gravity according to ASTM D 2111 (g/cm<sup>3</sup>) @ 25° C</b>	1.10 ±0.02
<b>pH</b>	3-7
<b>Main action</b>	Water reduction & Retarding of initial hydration; retention of workability.
<b>Collateral action</b>	High Range Water-Reducing /Super plasticizing Admixture
<b>Classification according to EN 934-2</b>	high range water reducing/ super plasticizing admixtures, T 11.1 / 11.2
<b>Classification according to ASTM C494</b>	Type G
<b>Classification according to ASTM C1017</b>	Type II
<b>Water reduction</b>	≥12 % according to EN 934-2 to almost 50%
<b>Chlorides soluble in water according to EN 480-10 (%)</b>	≤ 0.1 (absent according to EN 934-1)
<b>Alkali content (Na<sub>2</sub>O equivalent) according to EN 480-12 (%)</b>	< 55 g
<b>Nitrate content</b>	Nil

### Specification Compliance

- EN 934-2 T 11.1 / 11.2.
- ASTM C 494: Type G.
- EN 480-10.
- EN 480-12.
- ASTM D 2111.

## Packaging

20 liter jenkins, 210 liter drums, 1000 liters Bulk Tanks.

## Dispensing

Xtreme WR 400 Pave should be added to the concrete while being mixed using a suitable dispenser. Add to the concrete with the mixing water to obtain best results.

## Overdosing

When accidental overdosing occurs will result in:

- Increase in workability.
- Initial and final set retarding.

## APPLICATION PROCEDURE

Add Xtreme WR 400 Pave into the mixer after the other ingredients (water, cement, aggregates). Xtreme WR 400 Pave is most effective if added when cement and aggregate granules are already wet, and least effective when the admixture is mixed with dry solids which partially absorb (especially if porous). It is advisable to begin adding the admixture with an automatic dispenser after adding at least, half of the batching water required.

## Compatibility

Xtreme WR 400 Pave is not compatible with all admixtures of X-MIX series of type F & G & D. And recommended to ask before use Xtreme WR 400 Pave with any type of admixture. The resultant properties of concrete containing more than one admixture should be assessed by trial mixes.

## Clean Up

Clean up spillages of by absorbing onto sand and transferring to suitable containers. Any residue should be washed down with large quantities of water. The disposal of excess or waste material should be carried out in accordance with local regulations.

## Health and Safety

**This product is for industrial use only by trained operatives. It is potentially hazardous if not used correctly. Please refer to the Material Safety Data Sheet (MSDS) prior to the purchase and use of this product. The MSDS can be obtained via our website [www.ncc.com.eg](http://www.ncc.com.eg).**

## Authorized Technical Specialist

Please note that only NCC X-Calibur Authorized Technical Specialists (ATSSOs) are permitted to change any of the information in this data sheet or to provide written recommendations concerning the use of this product. Visit [www.ncc.com.eg](http://www.ncc.com.eg) for a full list of NCC X-Calibur ATSSOs.

## Datasheet Validity

NCC X-Calibur makes modifications to its product datasheets on a continuous basis. Please check the datasheet update section on [www.ncc.com.eg](http://www.ncc.com.eg) to ensure you have the latest version.

## Warranties

NCC X-Calibur supplies products that comply with the properties shown on the current datasheets. In the unlikely event that products supplied are proved not to comply with these properties, then we will replace the non-compliant product or refund the purchase price.

NCC X-Calibur does not warrant or guarantee the installation of the products as it does not have control over the installation or end use of the products. Any suspected defects must be reported to X-Calibur in writing within five working days of being detected. NCC X-Calibur Construction Chemistry Inc. **makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties express or implied.** NCC X-Calibur Construction Chemistry Inc. shall not be liable for damages of any sort including remote or consequential damages, down time, or delay.

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Quality Statement  
All Products manufactured by NCC X-CALIBUR or imported from X-CALIBUR companies world-wide are manufactured to procedures certified to conform the quality, environment, systems described in the ISO 14001:2004. ISO 9001:2000.



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