



## **newcrete P for acrylic plaster & stucco**

**PRODUCT PAGE**



**fiberfor**  
engineered construction solutions

# newcrete P for acrylic plaster & stucco

## Plaster Application Problems

Plaster generally suffers from the problem of surface dehydration, consequently causing early shrinkage, even before the cement has set and built internal strength. Consequently, stucco tends to crack, separate from the wall and create a problematic visual surface and quality.

### Drying and Cracking

This phenomena creates a dry skin of hardened plaster and hardens its surface, while the plaster's interior layer still contains water. Over time, as the remaining water in the interior layer continues to dry, the hardened exterior shrinks and cracks.

### Overflow and Leaks

This phenomenon is characterized by a significant drop in adhesiveness and spreading capacities of the paste on the element because of an absence of uniformity in the paste's properties. The paste's flexibility and bond are affected and consequently problems develop concerning the plaster's spreading capability and workability or alternatively the paste slips and overflows from the wall.

### Strength and Coherency

In this phenomena, there is a significant drop in the quality of the plaster's coherency and strength. This reduction in quality causes the plaster to weaken, disengage from the wall and significantly affects its durability in preliminary curing processes. Consequently the plaster is incapable of complying with requirements and specifications pertaining to quality, strength, tensile strength, and extraction etc.

## Solutions for the Various Problems in Stucco Applications

The fibers' properties, improve significantly the material's quality and its ease of execution in various applications.

The utilization of newcrete P fibers affords the plaster a smooth surface without any visible fibers (e.g., 'hairiness' as characterized in polypropylene- based products).

### Drying and Cracking

The chemical and mechanical properties of the nylon microfibers are well suited to providing plaster dryness and restrain cracking; Hydrophilic nylon fibers, cause an absorption of the water resident in the plaster, preventing surface drying, creating a uniform water balance in all of the plaster's layers and prevents the creation of peeling and cracking. High content microfibers (i.e., the number of fibers per cubic meter) are highly effective in restraining cracking already created and prevented its progression throughout the plaster's matrix.

### Overflow and Leaks

The mechanical properties of the thin and elastic fibers grants the stucco a flow capability (Rheology) and thickness dependent to the effort employed on the paste during spreading. The low thickness level during the plaster's spreading and hardening in a static or thixotropic state, on one hand affords the plaster a high spread capability, while on the other prevents overflow and disengagement as a consequence of its own heavy gross weight.

### Strength and Coherency

The geometric properties of the nylon fibers are characterized by low diameters and lengths of 3 to 6 mm, producing in the cementic system, a labyrinth that crisscrosses the plaster paste, reinforcing it and granting it is coherency, elasticity, resistance to blow, adhesiveness and strength.

Furthermore, the hydrophilic fibers facilitate water absorption and subsequent release in the internal curing processes, improving the plaster's strength and quality.

## The Advantages of newcrete P Fibers

The proposed Fiberfor fibers serve as the most compatible additives for stucco and other cementic systems, having a proven capability to prevent problems in plaster prior to their appearance, and improve performances in the various applications.

The plaster adapted microfibers, are particularly well suited to fine aggregate cementic systems, (contrary to existing standard polypropylene alternatives that face mixing, spreading and surface floating problems) thanks to:

The product's hydrophilic properties that enable an optimal spread and mixture to obtain the best possible compatibility with the plaster.

Improved friction properties thanks to a fiber surface that enhances the plaster's setting and bond with the element.

The fiber's structure is fine and short (length is 3 to 6 mm\_ enabling high content (200 - 500 million cubic meters) and surface areas of the fibers in the plaster. The high content levels grant the plaster its necessary advantages with great effectiveness;

- ▶ Water Absorbent, prevents dehydration and allows for a uniform spread (all thanks to its hydrophilic properties).
- ▶ Interacts and sets well with concrete
- ▶ Improves matrix reinforcement and restrains cracking
- ▶ Mechanical Properties; Elasticity, strength and resistant to blows and dynamic deformities
- ▶ The plaster's coherency and durability, improves the spreading application.
- ▶ The fibers' chemical setting with the plaster improves its bond in the wall.
- ▶ Enhanced extraction strength of the plaster from the wall
- ▶ Uniform dispersion and elasticity of the many fine fibers in the cementic matrix.
- ▶ Creates a polymeric network, granting the system its necessary coherency and rheologic properties and improves the cement's pumping capabilities in the spraying process.

## Primary Applications

### A designated development for preventing and resolving plastering problems

This product was developed especially for acrylic stucco, cement plaster and various other sealant products. Our company experts provide support and adaptation services for the product according to specific climatic conditions, minerals in the field, or other parameters that might affect the plaster's quality relative to the element upon which it is spread. Those applications enjoying suitable solutions include:

- ▶ Exterior Cement Plaster (Stucco)
- ▶ Interior Cement Plaster
- ▶ Scratch Coat
- ▶ Ready-made Plaster
- ▶ Plaster Finish
- ▶ Pumped Plaster
- ▶ Sealants
- ▶ Bonding Materials
- ▶ Glues
- ▶ Grouts

## Technological Characteristics

### The Fibers' Composition

The fibers are microfibers, made from nylon 6:6

### The Fiber's Structure

The fibers have an ultra-fine diameter (microfibers) and short lengths (3 to 6 mm) affording the fibers a high friction coefficient and better bond in the matrix.

### The Fibers' Properties

The fibers are characterized by improved mechanical properties that increases the matrix' strength, its flexibility and the plaster's bending strength and extraction.

### Technical Properties

Structure .....	Filamentary
Length .....	3 or 6 millimeter
Nominal Diameter .....	12 micron
Density .....	1.14 grams per cubic cm
Nominal DiTex.....	1.5
Tensile Strength.....	350 MPa
Elastic Modulus .....	2200 MPa
Liquefaction Temperatures.....	264°C
Alkali Resistance .....	Very High
Acidic Resistance.....	Very High
UV Radiation Resistance .....	Very High
Color.....	Transparent

## Contents and Quantities

### Fiber Quantity per Cubic Meter

The optimal quantity is one product bag containing 300 gram fiber per cubic meter plaster.

### Test Results

Today, by simply adding newcrete P fibers to any plaster mixture, according to the recommended dose, it is possible to reduce significantly the appearance of cracking and improve the plaster's bond in the element. The use of the fiber has been proven to enable a higher quality finished product.

## Service and Support

### The Laboratory

The product was developed in our laboratory. The laboratories are state of the art and among the most advanced in the field of fibers, concrete and plaster serving to adapt the solution to each application and for technical consultation needs during any job for the benefit of meeting the specific needs of each project.

### Experts in the Field

The product is adapted to the specifications of each application, at both the fiber and the concrete levels. The company's experts offer technical support services at the design level to assist and define the solution's scope and character (the quantity and type of fibers required) and during implementation and execution, through accompanying, consulting and providing expert technical support as required.

## Actual Application

### Blending Fibers into the Aggregate

It is possible to add fibers during each of the plaster preparation stages.

There is no need to modify the composition of the planned plaster

aggregate.

The product bags decompose in the concrete aggregate and release the fiber content into the plaster mixture with the fibers dispersing uniformly across the matrix.

Add the amount of fibers suitable to the plaster volume in the drum, according to the required dose and mix at the maximum speed (at least 70 rotations) for at least 4 minutes.

## Packaging and Storage

### Storage

The shelf-life of the packaged product is approximately one year.

The product must be stored in a dry and protected environment.

### Delivery

The product is manufactured and packaged in the company's facilities.

The product comes packaged in decomposable paper bags or in bulk.

The quantity of fibers in the packaging can be adapted according to the customers specific needs and requirements.

The shipped product arrives in decomposable bags, packed in carton boxes. A label containing the product's specifications is attached to each carton.

### Packaging

The dimensions of the carton packaging are 46 x 34 x 39 (height, length, width) and each carton contains 50 packages of 300 or 400 grams fibers per bag. The product comes with the following documentation:

- ▶ Bill of Lading
- ▶ Invoice
- ▶ Instructions for Use
- ▶ MSDS Safety Instructions
- ▶ Product Quality Compatibility Approval



Our Development, Your Success

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