

# PLASTIFLOW R

Chemically active, high range, set retarding water reducer/superplasticizer for concrete.

## HOW IT WORKS

PLASTIFLOW R is a non-chloride containing, water soluble, organic and synthetic polymer complex. It interacts chemically with cement particles in freshly mixed concrete, resulting in improved cement distribution throughout the mix. This reaction transforms the workability (low slump) characteristics of low water/cement ratio mix designs into slower setting, highly workable (high slump) mixes without changes to the designed water/cement ratio.

## APPLICATIONS

- ◆ Use in architectural, structural, precast and post tensioned concrete mixes.
- ◆ Use in environments where ambient temperatures are above 70° F.
- ◆ Use in applications where maximum working time of concrete is needed due to weather conditions, placement conditions or where extended transit time dictates a delayed set time.

## ADVANTAGES

- ◆ Simultaneously gives increased slump without extra mixing water and retards the set of concrete, allowing more time for placing and finishing in hot weather conditions.
- ◆ Increases concrete strength at all ages and improves workability and durability.
- ◆ Reduces mix water requirements by as much as 30%, resulting in up to a 50% increase in compressive strength and up to a 30% increase in flexural strength.
- ◆ Saves on cement - up to a 15% reduction in cement is possible while maintaining the same strength.
- ◆ PLASTIFLOW R can convert low slump concrete into a flowable, self-leveling mix without segregation of aggregate or reduction of strength.
- ◆ Significantly improves resistance to freeze thaw damage, water permeation and chloride ion (deicing salts) induced corrosion of reinforcing steel.
- ◆ Concrete flows easily into forms to fill voids and distributes evenly around heavy reinforcement.

- ◆ Concrete superplasticized with PLASTIFLOW R can be dropped up to 15 feet into wall and column forms without the aid of a tremie and with virtually no segregation as compared to a maximum of 5 feet with normal slump concrete. This can mean exceptional labor savings when pouring heavily reinforced structural walls and columns.
- ◆ Concrete pumps easier, reducing pump pressures by as much as 50%.
- ◆ High density concrete can be pumped to locations that previously were only accessible by crane and bucket.
- ◆ Concrete finishing costs are reduced due to the improved flow characteristics that PLASTIFLOW R offers without the addition of extra water.
- ◆ PLASTIFLOW R substantially reduces or eliminates the excessive bleeding associated with high slump, non-superplasticized concrete mixes. Accordingly, concrete finishing starts sooner and finishing costs are reduced.
- ◆ Concrete superplasticized with PLASTIFLOW R requires significantly less vibration than normal low water/cement ratio concrete due to a reduction in the viscosity of the mix.
- ◆ Non-flammable, non-toxic and DOT classified as non-hazardous.
- ◆ Meets all federal and state VOC requirements.

## ▲ PRECAUTIONS ▲

- ◆ The plasticity effect of PLASTIFLOW R typically lasts from 2-3 hours and can be added either at the ready mix plant or at the job site.
- ◆ If plasticity is lost before all concrete is placed, concrete can be redosed a second time to regain high slump without loss of strength. The same high slump attained with the initial dosage may not be attainable with a second dosage.
- ◆ Do not use if temperatures are below 70° F (21° C). PLASTIFLOW N is recommended for temperatures below 70° F (21° C).
- ◆ Use of an additional air entraining agent may be necessary for concrete that needs to be resistant to freeze/thaw damage.

PLASTIFLOW R

Admixtures



chemical solutions to concrete problems

- ◆ For self-leveling concrete, it may be necessary to increase the fine/coarse aggregate ratio approximately 5% or add fly ash, blast furnace slag or silica fume. This is especially important in mix designs containing a cement content lower than 500 lbs. per cubic yard.
- ◆ Protect from freezing. Allowing product to freeze can cause the container to rupture as well as separation of the active components, resulting in poor product performance. Product which is suspected of freezing should not be used.
- ◆ Verify that product is within the "USE BY" date stated on product packaging. Do not use expired product. The use of expired product may result in poor product performance or failure.

## USE INSTRUCTIONS

- ◆ Request current product literature, labels and material safety data sheets from manufacturer and read thoroughly before product use.
- ◆ Site environmental conditions, substrate conditions and construction have a major impact on product selection, application methods, procedures and rates, appearance and performance. Product literature provides general information applicable to some conditions. However, an adequate site test application by the purchaser or installer in advance of field scale use is mandatory (irrespective of any other verbal or written representations) to verify that product and quantities purchased can be satisfactorily applied and will achieve desired appearance and performance under intended use conditions.
- ◆ Required dosage of PLASTIFLOW R will depend upon concrete mix design and should be determined by trial batches. Concrete should arrive at job site having a 1-2 inch slump.
- ◆ PLASTIFLOW R should be added after concrete has been thoroughly mixed and a desired initial slump of 1-2 inches (2.5-5.0 cm) obtained. Recommended initial dosage rates range from 6-12 oz (175-350 ml) per sack of portland cement, depending on concrete mix design and use parameters.
- ◆ Concrete can be redosed after initial dosage to regain loss of plasticity. Contact NOX-CRETE for more specific use parameters.
- ◆ PLASTIFLOW R should be added directly to the freshly mixed concrete by either injecting the admixture into the center of the drum or by rotating the drum in the discharge direction until the concrete is backed up to the top of the drum. When mixing begins, the concrete will pull PLASTIFLOW R back into the center of the drum. Mix for 5-7 minutes.

## TECHNICAL DATA

Bulk Density..... 9.25 lbs./gal. (1110 g/l)  
 Color, ASTM D-1500..... 1.5  
 Clarity ..... Clear  
 Freeze Point ..... 32° F (0° C)  
 Flash Point TCC ..... >200° F (94° C)  
 Meets all requirements of ASTM C-494 Type A (water reducing) and Type G (high range water reducing and set retarding) admixtures. Permits a minimum of 12% water reduction in mix design. Also conforms to AASHTO M194 Type A and Type G.

## PACKAGING

Product is packaged in 5 gal. (19 l) pails and 55 gal. (208 l) drums.

## SHELF LIFE

Shelf life is one year. Use before the "USE BY" date stated on product packaging.

## HANDLING/STORAGE

Store in a dry location within a temperature range between 40° F (4° C) and 100° F (38° C).

## AVAILABILITY & TECHNICAL SERVICES

In addition to corporate offices in Omaha, Nebraska, NOX-CRETE Products Group maintains regional offices and distribution centers in principal markets throughout the world. For source or technical information, phone (800) 669-2738 or (402) 341-1976.

## LIMITED WARRANTY

### NOTICE—READ CAREFULLY

#### CONDITIONS OF SALE

NOX-CRETE offers this product for sale subject to, and Buyer and all users are deemed to have accepted, the following conditions of sale and limited warranty which may only be varied by written agreement of a duly authorized corporate officer of NOX-CRETE. No other representative of or for NOX-CRETE is authorized to grant any warranty or to waive limitation of liability set forth below.

#### WARRANTY LIMITATION

NOX-CRETE warrants this product to be free of manufacturing defects. If the product when purchased was defective and was within use period indicated on container or carton, when used, NOX-CRETE will replace the defective product with new product without charge to the purchaser.

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#### INHERENT RISKS

NOX-CRETE MAKES NO WARRANTY WITH RESPECT TO THE PERFORMANCE OF THE PRODUCT AFTER IT IS APPLIED BY THE PURCHASER, AND PURCHASER ASSUMES ALL RISKS ASSOCIATED WITH THE USE OR APPLICATION OF THE PRODUCT.