

Durafiber™

A Durafiber Group Product

Durafiber polypropylene fibers are a low-denier multifilament material that quickly and easily mixes with the concrete mix, creating an effective multidirectional secondary reinforcement.

When acceptable concrete practices are used, Durafiber will provide benefits that other methods of secondary reinforcement may not.

Durafiber will provide a substantial reduction in plastic shrinking cracking, increase impact and shatter resistance, and increase freeze-thaw resistance.

Durafiber ¾" lengths are an ideal size for thorough mixing providing excellent dispersion in all types of concrete mixers.

Durafiber does not rust or deteriorate.

Plastic Shrinkage Cracking is greatly reduced by increasing the tensile capacity of the paste fraction of the concrete while concrete is at its weakest point during the first 6 hours. As the concrete

dries millions of microcracks form which may line up to create a weakened area. Sometimes these cracks are surface sealed by finishers and remain unseen until a later date when a load is applied to the weakened area creating a visible crack. Durafiber aids by intersecting and stopping these microcracks before they gain sufficient energy and number to create these weakened areas.

Impact and Shatter Resistance are increased when Durafiber is added to concrete. Durafiber increases the amount of energy necessary for concrete to crack when a dynamic impact load is applied. In addition, the fibers bridge cracks if they do develop, inhibiting further growth and maintaining the integrity of the concrete.

Freeze-Thaw Resistance is improved due to Durafiber's ability to knit together the concrete in its plastic state. This is accomplished by the reduction of settlement and segregation of the coarse aggregate, resulting in less bleed water, therefore providing a stronger surface.



WORKS ON: Runways - Slabs-on-Grade - Driveways - Parking Lots - Sidewalks - Shotcrete - Mortar Mixes - Subterranean Walls - Grout - Livestock Areas - Septic Tanks Paving Tile - Toppings - Patios - Curb/Gutters - Stucco - Whitetopping - Street Paving

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PRECAST CONCRETE

Durafiber is particularly well suited for use in precast concrete units because of its quick and thorough dispersion. No time delay or extended mixing time is required with Durafiber. And the millions of fibers per cubic foot of concrete provide maximum protection to edges, corners, and surfaces of precast units.

In addition, Durafiber is virtually invisible on formed surfaces.

OVERLAYS

Durafiber is used extensively in *Ultrathin Whitetopping (UTW)* on city and state high-density applications, such as intersections, bus lanes, and ramps. More information is available on these applications by contacting a Durafiber representative.

ACID, ALKALI, AND UV RESISTANT

Because Durafiber is made from virgin polypropylene, it is highly resistant to both alkali and acid environments. Durafiber has been subjected to tests in both alkali (pH 12.0) and acid (pH 2 .2) for 120 days with no sign of deterioration. UV inhibitors have been added to Durafiber to enhance durability.

CONCRETE FINISHING

Because Durafiber is a low denier material, it does not leave the surface with the unsightly appearance that is often the case when longer, thicker fibers are used.

The concrete finisher will find that the fine texture of the Durafiber will be easy to work with and can be broomed or tined.

PUMPING FIBER CONCRETE

The pump grate should be clean and free of concrete build-up to ensure it does not catch some of the fibers. The truck chute should be kept a minimum of 12 inches above the pump grate while unloading to ensure a continuous concrete flow into the pump.

COMPATIBILITY WITH OTHER MATERIALS

Durafiber is compatible with all concrete admixtures. It is non-absorbent and functions in a mechanical manner within the concrete mass.

DOSAGE

Since Durafiber can be used for such a large variety of applications including flatwork, mortar, stucco, packaged goods, lightweight foamed concrete, and stamped patterned flatwork, a dosage range from .75 lb per cubic yard to 3 lb per cubic yard is recommended. Generally the dosage rate for concrete reinforcement is 1.5 lb per cubic yard. If there are questions concerning this or other special applications, call for recommendations.

MIXING INSTRUCTIONS

Add fibers to the concrete and mix for five minutes at mixing speed or until thoroughly mixed.

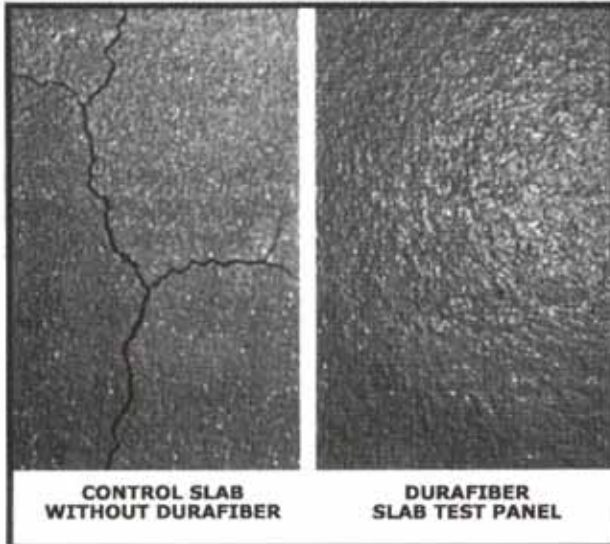
PACKAGING

Durafiber standard sizes are .75 lb., 1 lb., 1.5 lb., 3 lb., 6 lb., and 1 kg bags.

Custom sizes can be ordered at no extra charge with a slightly longer lead-time required.

Durafiber™

reduces plastic shrinkage cracking without a "hairy" surface



CONCRETE TESTS

The following tests have been performed by independent laboratories using Durafiber successfully with no adverse effect:

- ASTM C 39 Compressive Strength
- ASTM C 78 Flexural Strength
- ASTM C 173 Air Content and Unit Weight
- ASTM C 469 Static Modulus
- ASTM C 496 Tensile Strength
- ASTM C 597 Pulse Velocity
- ASTM C 666 Freeze Thaw Resistance
- ASTM C 1018 Static Flexural Strength
- ASTM C 1399 Residual Strength
- ACI 544 Impact Resistance

It is important for all concrete to be placed at reasonable W/C ratios and for good concrete practices to be followed. Proper jointing practices, curing, and finishing are important for all concrete, whether or not Durafiber is being used.

DURAFIBER

- Conforms to the requirements of ASTM C1116-00.
- Has U.L. Classification #R14144 alternative for welded wire fabric.
- Southern Building Code Congress Inc. SBCCI #9513A.

ENGINEERING DATA

Material: Polypropylene
Specific Gravity: 0.90
Melting Point: 330°F
Ignition: 1100°F
Absorption: Nil

WHEN WATER IS ADDED TO CONCRETE, ITS STRENGTH IS REDUCED

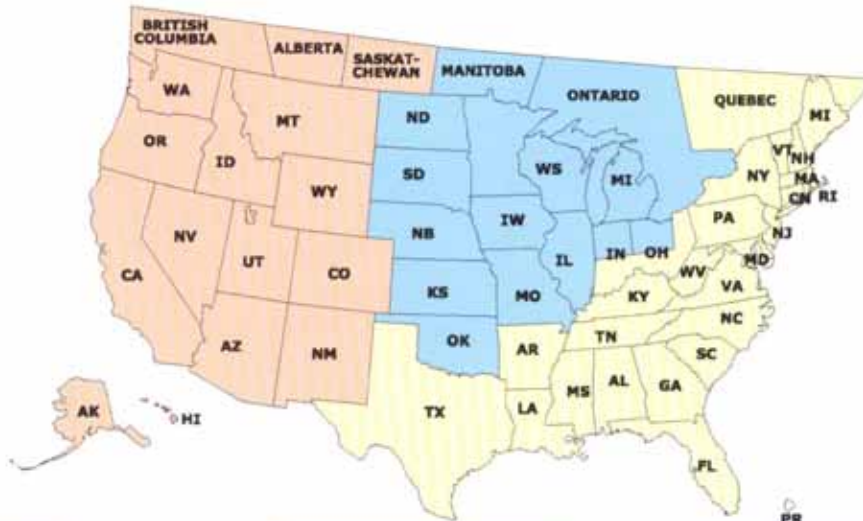
(Based on current ACI tables)

Water Added Gallons Per Cubic Yard	Slump Increases In Inches	Percent of Strength Reduction	Pounds Reduced per Square Inch
1	¾	4.75	190
2	1½	8.0	320
3	2½	11.5	460
4	3¾	15.0	600
5	4¾	18.5	740
6	5	21.75	870
7	6	25.0	1000
8	6½	27.5	1100
9	7½	30.25	1210

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FIELD SERVICE

For technical information and architectural support,
please contact our Experienced Service Representatives
at the phone or fax number listed above



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READY MIXED
CONCRETE
ASSOCIATION



REPRESENTED BY



IMPORTANT: Durafiber Corporation assumes no responsibility for the end product or uses made with DURAFIBER, as we exercise no authority or control over the engineering, manufacturing, or testing of products which incorporate DURAFIBER materials. For information, see Materials Safety Data Sheet (MSDS) for this material.