

NOVOMESH® 950

PRODUCT DATA SHEET



NOVOMESH® 950 MACRO-SYNTHETIC FIBER BLEND

Novomesh 950, formerly Novomesh HPP 2.0, secondary reinforcement system for concrete—a blend of polypropylene/polyethylene high performance macro-monofilament fibers with patented sinusoidal deformations and 100% virgin polypropylene micro-synthetic fibers containing no reprocessed olefin materials. Engineered and Manufactured in an ISO 9001:2000 certified facility for use as concrete reinforcement at a minimum addition rate of 5 lb/yd³ (3.0 kg/m³). Complies with ASTM C III16/C III16M Type III 4.1.3.

ADVANTAGES

Requires no minimum amount of concrete cover • Is always positioned in compliance with codes • Safe and easier to use than traditional reinforcement

- Saves time and hassle

FEATURES & BENEFITS

- Macro-synthetic and micro-synthetic fiber blend for secondary reinforcement used in lieu of W2.9 x W2.9 (6x6) wire mesh and #3 and #4 rebar configurations
- Inhibits formation of plastic shrinkage and plastic settlement cracks
- Provides impact, abrasion and shatter resistance
- Lowered water migration
- Provides higher levels of residual strength
- Provides improved durability
- Control of drying shrinkage and temperature cracking
- Good finishing characteristics
- Pumpable reinforcement

PRIMARY APPLICATIONS

Applicable to all types of concrete in the commercial market segment that require a synthetic system for secondary reinforcement and steel reinforcement cannot be used. The commercial market segment can include stores, hotels, institutional, educational, health care, amusement, offices, churches and storage facilities.

- Slabs-on-ground
- Parking areas
- Exterior pavements
- Sidewalks/Driveways
- Overlays & toppings
- Non-magnetic applications

CHEMICAL AND PHYSICAL PROPERTIES:

Polypropylene Component:

Absorption	Nil
Specific Gravity	0.91
Fiber Length	Multi-Design Gradation
Electrical Conductivity	Low
Melt Point	324°F (162°C)

Coarse Macro-Monofilament Polypropylene Component:

Absorption	Nil
Specific Gravity	0.91
Nominal Filament Diameter	0.033 in (0.83 mm)
Fiber Length	1.78 in (45 mm)
Electrical Conductivity	Low
Melt Point	328°F (164°C)

DO SPECIFY NOVOMESH 950 FIBERS:

- Reduced plastic shrinkage cracking
- Alternative to traditional steel for temperature/shrinkage and flexural reinforcement
- Improved impact, shatter and abrasion resistance
- Improved residual strength
- Reduced water migration and damage from freeze/thaw
- Improved durability

DO NOT SPECIFY NOVOMESH 950 FIBERS:

- Increasing joint spacing beyond ACI and PCA guidelines
- Decreasing the thickness of slabs
- Replacing structural levels of steel reinforcement



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PRODUCT USE

MIXING DESIGNS AND PROCEDURES: Novomesh® 950 reinforcing is a mechanical, not a chemical process. The addition of Novomesh 950 does not require additional water or other mix design changes at normal rates. Novomesh 950 degradable bags are added to the mixer after batching the other concrete materials or during the addition of aggregates and water. Mixing time of at least 5 minutes at mixing speed is required as specified in ASTM C 94.

FINISHING: Novomesh 950 reinforced concrete can be finished with normal finishing techniques in accordance with ACI 304, Section C.3.

APPLICATION RATE: The standard application rate for Novomesh 950 is one 5 lb degradable bag per cubic yard (3.0 kg/m³) of concrete.

GUIDELINES

Novomesh 950 should not be used to replace structural, load-bearing reinforcement. Novomesh 950 fibers should not be used as a means of using thinner concrete sections than original design. Novomesh 950 should not be used to increase joint spacing past those dimensions suggested by PCA and ACI industry standard guidelines.

COMPATIBILITY

Novomesh 950 is compatible with all commonly used concrete admixtures and performance enhancing chemicals.

PACKAGING

Novomesh 950 fibers are available in 5 lb degradable bags. The macro-monofilament fiber is collated in small bundles within the degradable bag for rapid distribution. Novomesh 950 fibers are packaged, shrink-wrapped and palletized for protection during shipping.

TECHNICAL SERVICES

Trained Propex Concrete Systems specialists are available worldwide to assist and advise in specifications and field service. Propex Concrete Systems representatives do not engage in the practice of engineering or supervision of projects and are available solely for service and support of our customers.

REFERENCES

- ASTM C 94 Standard Specification for Ready-Mixed Concrete Uniformity Requirements.
- ASTM C 1399 Average Residual Strength of Fiber Reinforced Concrete.
- ASTM C 1436 Standard Specification for Materials for Shotcrete.
- ASTM C 1609 / C 1609M Standard Test Method for Flexural Performance of Fiber-Reinforced Concrete (Using Beam With Third-Point Loading). Replaces ASTM C 1018.
- ASTM C 1116 / C 1116M Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
- ASTM C 1550 Standard Test Method for Flexural Toughness of Fiber Reinforced Concrete (Using Centrally Loaded Round Panel).
- JCI-SF4 Method of Test for Flexural Strength and Flexural Toughness of Fiber Reinforced Concrete.
- ACI 304 Guide for Measuring, Mixing, Transporting and Placing Concrete.
- ACI 506 Guide for Shotcrete.

SPECIFICATION CLAUSE

Novomesh 950 will be used for shrinkage and temperature protection of the concrete. Novomesh 950 is a blend of high performance macro-monofilaments with patented sinusoidal deformations and micro-polypropylene fibers. All fibrous concrete shall conform to ASTM C 1116 / C 1116M. Application rate shall be a minimum of 5 lbs per cubic yard (3.0 kg/m³) of concrete. Fiber manufacturer must document evidence of satisfactory performance history, compliance with applicable building codes, ASTM C 1116 / C 1116M Type III, 4.1.3. Fibrous concrete reinforcement shall be manufactured by Propex Concrete Systems, 6025 Lee Highway, Suite 425, PO Box 22788, Chattanooga, TN, 37422, USA, tel: 423 892 8080, fax: 423 892 0157, web site: fibermesh.com.

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CS 516
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3/07

NOTE: This product data sheet replaces all previous Novomesh® 950 product data sheets.



Date: January 2, 2007

Certification of Compliance: NOVOMESH® 950

This letter is to certify that NOVOMESH® 950, with patented e3® technology, is an engineered blend of macro-monofilament and micro polypropylene fibers and meets our published specifications and ASTM C 1116-03, Type III, "Standard Specification for Fiber-Reinforced Concrete and Shotcrete". The controlled blend of micro-synthetic and macro-monofilament fibers are manufactured and tested under the direction of the Propex Chattanooga facility that has maintained ISO 9001:2000 certification for its systematic approach to quality.

We certify that NOVOMESH 950 fibers reduce plastic shrinkage and plastic settlement crack formation, improve impact, abrasion and shatter resistance, reduce water migration, while enhancing the concrete's flexural strength, shear strength, fatigue endurance and ductility. The e3 technology is engineered for length, thickness, and mix ratio designed to provide enhanced finishability and mixing properties.

NOVOMESH 950 conforms to the property values listed below:

Micro fiber Component:

Property	Value	Property	Value
Denier	6, 20	Ignition Point	1100° F
Fiber Length	Graded	Thermal Conductivity	Low
Specific Gravity	0.91	Electrical Conductivity	Low
Absorption	Nil	Alkali Resistance	Alkali Proof
Melt Point	324° F	Acid & Salt Resistance	High

Macro fiber Component:

Property	Test Method	Value
Denier	ASTM D 1907	4500
Fiber Length	Measured	1.8 in (45 mm)
Elongation	ASTM D 2256	15.0%
Crimps/Inch	Measured	7.0

Thank you for choosing NOVOMESH 950 fibers. Please do not hesitate to contact Propex Concrete Systems if we can be of further assistance.

Sincerely,

Carl Labbe
Quality Manager

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ENGINEERING REPORT No. 14

Novomesh® 950 Plastic Shrinkage Crack Reduction

OVERVIEW – Novomesh® 950 significantly reduces plastic shrinkage cracking in early-age concrete. As the addition rate of the fiber increases, the cumulative crack area and width decrease. This intrinsic cracking is caused by shrinkage within the concrete and is usually formed within the first 24 hours after the concrete has been placed. These cracks may or may not be immediately visible, but as the concrete continues to shrink, they create planes of weaknesses that can escalate and widen into drying shrinkage cracks, permanently lowering the integrity of the concrete. Welded wire fabric and light reinforcing bar do not prevent plastic shrinkage cracking, but can only hold the concrete together after it cracks. The addition of Novomesh 950 reduces plastic shrinkage cracking allowing concrete to develop to its optimum long-term integrity.



Control Specimen-without fiber

Fiber-reinforced Specimen

PURPOSE OF THE REPORT – The following report evaluates the effect of Novomesh 950 on plastic shrinkage cracking. The test method used is a modified version of the *University of British Columbia Restrained Plastic Shrinkage Test Method*.

Novomesh 950 was tested at 0.33% and 0.50% by volume and compared against a control specimen without fibers.

This test method measures both cumulative crack area and cumulative crack width and are reported in this paper.

Novomesh® 950 Plastic Shrinkage Crack Reduction

Test Method

The test method used in this program was a modified version of that used and developed by the University of British Columbia. In this method, a layer of fresh concrete was placed directly on a fully hardened substrate. The substrate was prepared at least 28 days prior to the actual test in order to allow time to achieve a sufficient strength. To enhance the linear stiffness, the substrate was made from high-strength concrete and two pieces of rebar were imbedded in the substrate. While the substrate was still fresh, rounded aggregate was placed on the surface to improve the restraint provided by the substrate. The whole assembly was then subjected to a drying environment to induce cracking in the overlay.

For purposes of this test, a concrete overlay containing Novomesh® 950 fiber and a control specimen with no fiber were cast over a high-strength, 28-day-old (or older) sub-base, which is used as restraint. The specimens were then placed in a chamber with a temperature of 45°C and a relative humidity between 8 and 20 percent. Heated blowers located on both ends of the chamber provided the heat and wind velocity. After one hour and thirty minutes, the specimens were stripped of their form walls to expose a larger surface area to the chamber conditions. The specimens remain in the chamber for total of 24 hours. After the 24-hour test period, the specimens are removed from the chamber and the cumulative crack area and cumulative crack width is calculated using photo-imaging software. (See figures 1 through 5).

Mix Design

The mix design consisted of:

- 1909 pounds of Signal Mountain Portland Cement — Type-I
- 955 pounds of Vulcan Dredged River Sand meeting ASTM C-33
- 716 pounds of potable water
- 3580 pounds

This mix design resulted in an extremely flowable mixture. Novomesh 950 fibers were added at one bag and 1.5 bag addition rates.



Figure 1. Restrained Shrinkage Chamber



Figure 2. Casting Sub-bases



Figure 3. Casting Overlays



Figure 4. Placing Overlay into Chamber



Figure 5. Stripping Molds

Novomesh® 950 Plastic Shrinkage Crack Reduction

Test Results

Cumulative Crack Area

The cumulative crack area measured for the control specimen was 43 mm². The addition of Novomesh 950, one bag/yd³, reduced the cumulative crack area to 3 mm². An increased addition rate of Novomesh 950 at 1.5 bags/yd³ yielded a further reduction to 2 mm². See Figure 6 for results.

Cumulative Crack Width

As expected, the cumulative crack widths correspond with the crack areas. Smaller crack widths resulted in smaller crack areas. The crack width measured for the control specimen was 0.47 mm. The addition of Novomesh 950, one bag/yd³, significantly reduced the crack width to 0.04 mm. An increased addition rate of Novomesh 950 at 1.5 bags/yd³ yielded a further reduction to 0.03 mm. See Figure 7 for results.

Novomesh® 950 Plastic Shrinkage Summary:

Table 1 - Test Results				
Fiber Dosage	vol. %	0.00%	0.33%	0.50%
		lb/yd ³	0	5
	kg/m ³	0.0	3.0	4.4
Cumulative Crack Area	in. ²	0.067	0.005	0.003
	mm ²	43	3	2
Cumulative Crack Width	in.	0.0185	0.0016	0.0012
	mm	0.47	0.04	0.03

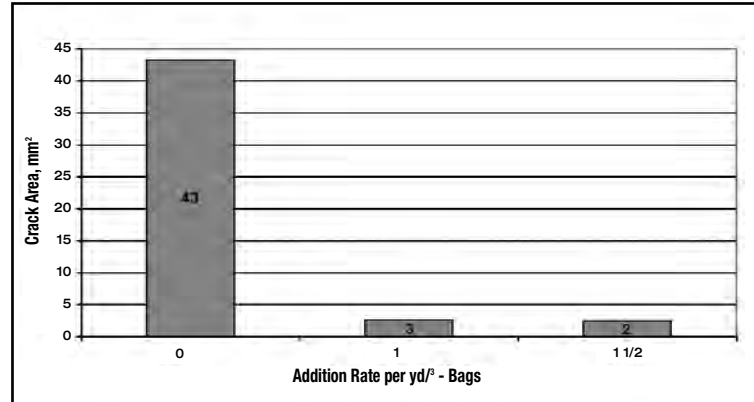


Figure 6. Cumulative Crack Area
Restrained Shrinkage Cracking per UBC Test Method

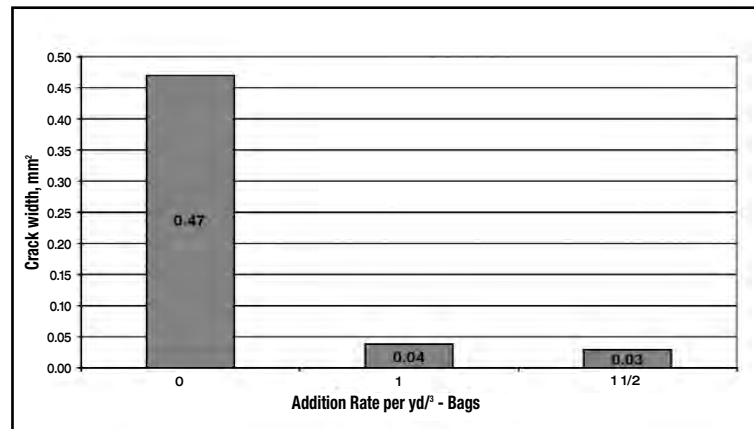


Figure 7. Cumulative Crack Width
Restrained Shrinkage Cracking per UBC Test Method

CONCLUSIONS

- Novomesh 950 reduced the cumulative crack area 93% compared to plain concrete.
- Novomesh 950 reduced the cumulative crack width 91% compared to plain concrete.
- Crack widths are important when assessing the durability of in-place concrete. Cracks allow salts, water, and other chemicals to enter the concrete resulting in premature wear and failure.



Figure 8. Control Specimen
without Fiber

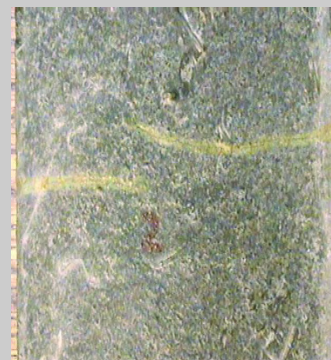


Figure 9. Novomesh 950,
1-bag/yd³ Specimen

*The cracks in Figures 8 & 9 were highlighted for clarity during the sample evaluation.

ENGINEERING REPORT No. 15

Novomesh® 950 Impact and Abrasion Resistance

OVERVIEW – Fiber-reinforced concrete offers many more benefits including impact and abrasion resistance that increases its long-term durability over plain concrete. By introducing millions of fibers into the concrete mix, Novomesh® 950 fibers give concrete a multi-dimensional secondary reinforcement system that keeps the aggregate suspended in the concrete matrix. This internal support system minimizes concrete surface weaknesses and defects due to impact and abrading forces. When compared to plain concrete, Novomesh 950 significantly improves the impact and abrasion resistance of concrete.



PURPOSE OF THE REPORT – To measure the impact and abrasion resistance of concrete reinforced with Novomesh 950, the following two test methods were used:

- ICBO AC-32, *Acceptance Criteria for Concrete with Synthetic Fibers, Annex C-2, Test Method for Evaluating Impact Resistance of Concrete with Synthetic Fibers*
- ASTM C 1138-97, *Standard Test Method for Abrasion Resistance of Concrete (Underwater Method)*

The impact resistance is characterized by the number of blows required to fracture the concrete specimen and the number of blows required to achieve a prescribed level of distress. The abrasion resistance is measured by determining the weight loss of the concrete specimen.

The addition of fibers aid in keeping the aggregate at the surface of the concrete which increases the impact and abrasion resistance over plain concrete. Left: Plain concrete; Right: Fiber-reinforced concrete

Novomesh® 950

Impact and Abrasion Resistance

Mix Design

The same concrete mix designs were used for both the impact and abrasion resistance testing. The concrete was evaluated at the following dosages of fibers:

Control	-	no fiber
Novomesh 950 1-bag	-	5 lb/yd ³ = 3.0 kg/m ³
Novomesh 950 2-bag	-	10 lb/yd ³ = 5.9 kg/m ³

Material	Units	Quantity
Portland Cement - Type 1	lbs	564
#67 Crushed Limestone	lbs	1740
C-33 Concrete Sand	lbs	1425
Water	lbs	310

Impact Resistance Test Method

Specimens were mixed and cast in accordance with ASTM C 192. Slump, air content, and unit weight were measured before and after the addition of fibers, and were determined in accordance with ASTM C 143, C 231, and C 138 respectively. From each mix, twelve 6" diameter, 2 1/2"-thick pucks were cast. All specimens were consolidated in a single layer by external vibration, and float finished. The specimens were demolded at one day and cured in temperature-controlled, lime-saturated water until the time of testing.

The impact pucks were tested according to ICBO AC-32, *Acceptance Criteria for Concrete with Synthetic Fibers, Annex C-2, Test Method for Evaluating Impact Resistance of Concrete with Synthetic Fibers*. Six pucks were tested at seven days of age, and the remaining six pucks were tested at 28 days of age.

The thickness of each specimen was determined at three locations: the center and two opposite sides. After cleaning the bottom side of the specimen, a thin layer of petroleum jelly was applied to the bottom of the specimen, and foamed elastomer pieces were placed between the positioning lugs and the specimen. The hardened steel ball was placed on top of the concrete specimen within the bracket.

The drop hammer was placed with its base held against the steel ball with sufficient pressure to prevent the hammer from bouncing off the ball during the testing. The hammer was repeatedly dropped 18" until the first crack was visible. The number of blows required to obtain the first visible crack was recorded.

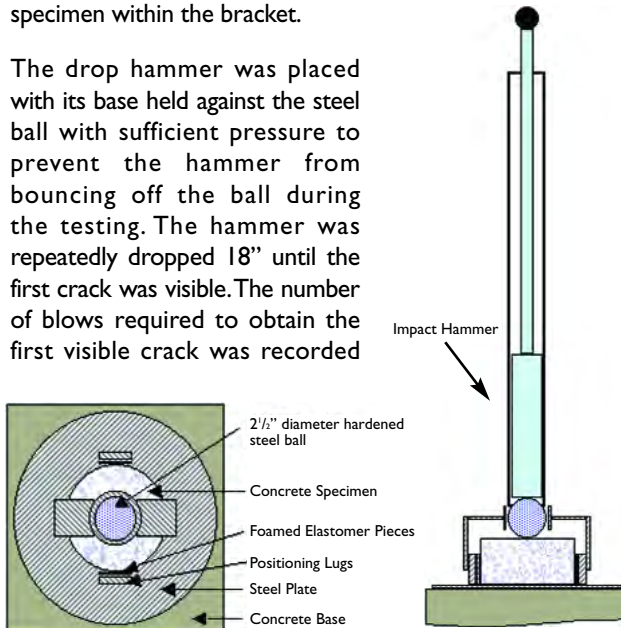


Figure 1. Impact Testing Apparatus I

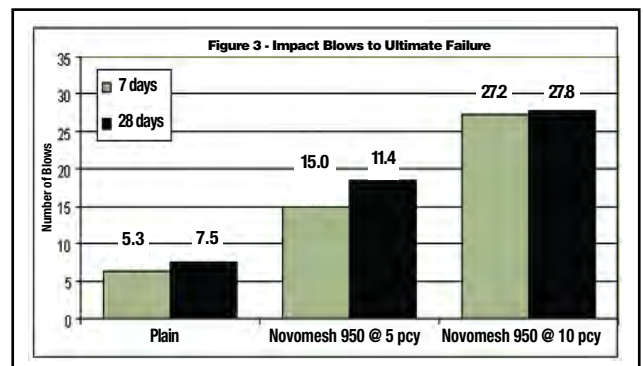
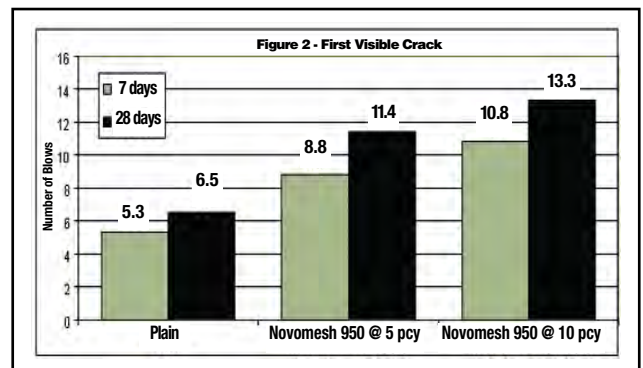
I-The hammer meets requirements specified in ASTM D 698 and ASTM D 1557

and the foamed elastomer pieces were removed. The dropping of the hammer then continued until the concrete specimen contacted three of the four positioning lugs, which was considered ultimate failure. The number of blows to ultimate failure was recorded, the specimen removed, and the steel plate thoroughly cleaned before proceeding with the testing of the next specimen.

Test Results

At the standard one-bag addition rate per cubic yard of concrete, Novomesh 950 significantly outperformed plain concrete in both blows to first visible crack and blows required for failure. Increasing the fiber content to the 2-bag addition rate for Novomesh 950 increased the number of blows to the first visible crack and the number of blows required for failure. See Figures 2 & 3 for test results.

The plain concrete pucks typically reached ultimate failure one blow after the first visible crack. This is artificially high since the foamed elastomer pieces prevented the specimen from touching the edges after the first visible crack. If the foamed elastomer pieces were not placed between the specimen and the positioning lugs, most of the plain concrete specimens would have reached ultimate failure at the first visible crack.



Novomesh® 950 Impact and Abrasion Resistance

Abrasion Resistance Test Method

Specimens were mixed and cast in accordance with ASTM C 192. Slump, air content, and unit weight were measured before and after the addition of fibers, and were determined in accordance with ASTM C 143, C 231, and C 138 respectively. From each mix, two 11.8" diameter, 4.0"-thick specimens were cast. All specimens were consolidated in a single layer by external vibration, and float finished. Since the finishing technique can significantly affect the test results, care was taken to finish all specimens in an identical manner. The specimens were demolded at one day and cured in temperature-controlled, lime-saturated water until the time of testing.

The abrasion specimens were tested according to ASTM C 1138 - 97, *Standard Test Method for Abrasion Resistance of Concrete (Underwater Method)*. One specimen was tested at 7 days of age, and the remaining specimen was tested at 28 days of age. When ready for testing, the specimen was brought to saturated-surface-dry (SSD) condition and its weight was determined.

The testing vessel consisted of a 1/2"-thick, 12"-inside-diameter, 18"-tall steel pipe welded to a 3/4"-thick steel base. The specimen was carefully lowered inside the testing vessel and placed on four 1"x1"x1" steel blocks. The specimen was orientated with the finished surface facing up.

The agitation paddle was mounted in a drill press, normal and centered to the specimen. The bottom of the agitation paddle was placed 1/2" above the top of the specimen. The speed of the drill press was set to 1150 rpm.

The abrasive charge, consisting of ten 1.00"-, thirty-five 0.75"-, and twenty-five 0.50"-diameter steel balls, was placed on top of the specimen. Lime-saturated water was added to a level 6 1/2" above the surface of the specimen and the drill press was turned on.

Twice a day, the specimen was carefully removed from the vessel and flushed with water. After being brought to SSD condition, the weight of the specimen was determined and the specimen returned to the vessel. Testing was terminated after 72 hours.

Test Results

Novomesh 950, at the standard addition rate of one bag per cubic yard of concrete, reduced the weight loss due to abrasion from 5.12 lbs (plain) to 3.23 lbs (Novomesh 950) at 7-day curing. As the fiber dosage increased, the weight loss due to abrasion decreased. Figures 5 and 6 show weight loss in pounds after 7-day curing and 28-day curing.

The abrasion and impact of the steel balls was very aggressive. At first, only the mortar of the concrete was being distressed, but quickly the coarse aggregate was exposed, slowing the degradation of the concrete.

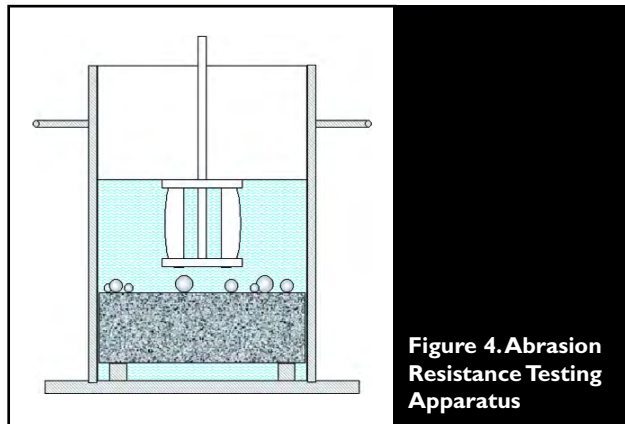


Figure 4. Abrasion Resistance Testing Apparatus

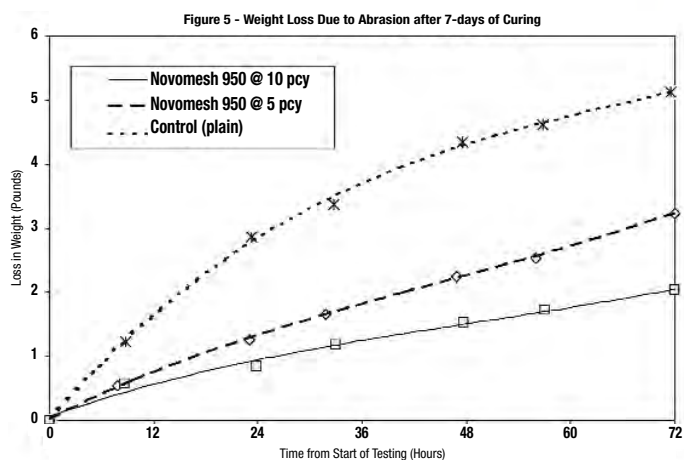


Figure 5 - Weight Loss Due to Abrasion after 7-days of Curing

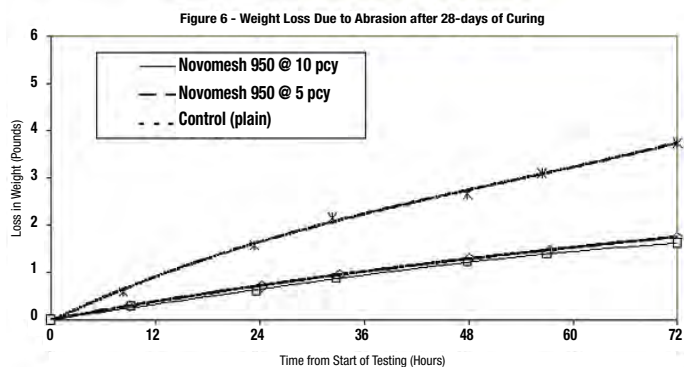


Figure 6 - Weight Loss Due to Abrasion after 28-days of Curing

The difference in loss due to abrasion can be visibly seen. It was interesting to note that the fibers not only reduced the abrasion, but also improved the consistency and evenness of the surface. Deep pockets tended to form on the surface of the control specimens, especially at the later portions of the test period. The fiber-reinforced specimens have a more uniform surface loss due to the abrasion (See Figures 7 & 8, page 4). Fibers are recognized for reducing aggregate segregation and improve the distribution of coarse aggregates across a vertical plane. This indicates that fibers may improve the distribution of aggregates in a horizontal plane as well.

Novomesh® 950

Impact and Abrasion Resistance

CONCLUSIONS

- Novomesh 950 increased the impact resistance over plain concrete up to 59%. An increased addition rate of fibers yielded a 40% increase in the number of impact blows required for failure.
- Novomesh 950 reduced the weight loss of concrete due to abrasion when compared to plain concrete on the average of 45%. Increasing the addition rate of fibers improved performance.
- Novomesh 950 improved the consistency and evenness of the concrete surface. Novomesh 950 reduced aggregate segregation and improved the distribution of coarse aggregates in the concrete matrix increasing concrete durability. Figures 7 & 8 show the surface profile of the control specimen and the Novomesh 950 reinforced specimen.

Number of Impact Blows to "Failure"		
Age	7 days	28 days
Plain	6.3	7.5
Novomesh 950 5 lb/yd ³	15.0	18.4
Novomesh 950 10 lb/yd ³	27.2	27.8

Weight Loss after 72 Hours (percent)		
Age	7 days	28 days
Plain	13.5%	9.9%
Novomesh 950 5 lb/yd ³	8.6%	4.6%
Novomesh 950 10 lb/yd ³	5.6%	4.3%

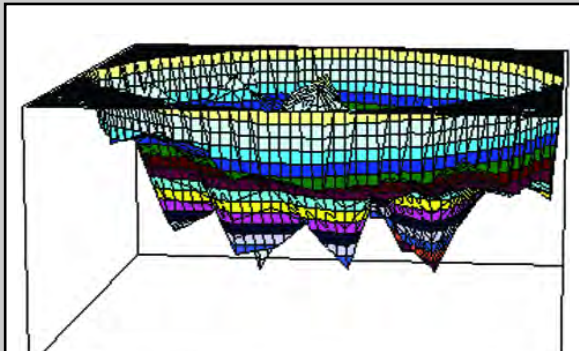


Figure 7. Surface Profile of the Control Specimen at 7 days.

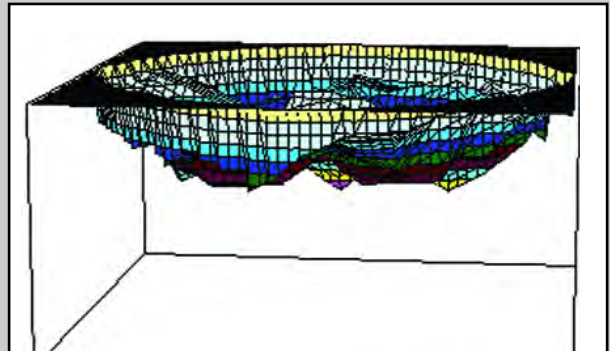


Figure 8. Surface Profile of Novomesh 950 5 lb/yd³ Specimen at 7 days

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Novomesh® 950 Conversion Chart {3,000-psi Concrete}																					
For Commerical and Light Industrial Slab On Ground Applications																					
Designation	6" x 6" W2.0 x W2.0	6" x 6" W2.9 x W2.9		6" x 6" W4.0 x W4.0		4" x 4" W1.4 x W1.4		4" x 4" W2.0 x W2.0		4" x 4" W2.9 x W2.9		4" x 4" W4.0 x W4.0		#3 rebar @ 12 in. x 12 in.	#3 rebar @ 18 in. x 18 in.	#4 rebar @ 24 in. x 24 in.					
A _s (in ² /ft)	0.040		0.058		0.080		0.042		0.060		0.087		0.120	0.110		0.074		0.100			
		pcy		pcy		pcy		pcy		pcy		pcy		pcy		pcy		pcy			
Slab Thickness (in.)	4	164.6	5.0*	236.0	6.4	321.0		172.6	5.0*	243.8	6.9	347.5		469.0		351.2		240.7	6.7	321.0	
	4 1/2	146.7	5.0*	210.6	5.0*	286.9	9.7	153.9	5.0*	217.6	5.2	310.8		420.6		314.2		214.8	5.0	286.9	9.7
	5	132.4	5.0*	190.2	5.0*	259.4	7.9	138.8	5.0*	196.5	5.0*	281.1	9.4	381.2		284.2	9.6	194.0	5.0*	259.4	7.9
	5 1/2	120.5	5.0*	173.4	5.0*	236.7	6.4	126.5	5.0*	179.2	5.0*	256.6	7.7	348.5		259.4	7.9	176.8	5.0*	236.7	6.4
	6	110.7	5.0*	159.3	5.0*	217.6	5.2	116.1	5.0*	164.6	5.0*	236.0	5.0	321.0		238.6	6.6	162.5	5.0*	217.6	5.2
	6 1/2	102.3	5.0*	147.3	5.0*	201.4	5.0*	107.3	5.0*	152.2	5.0*	218.5	5.0	297.4		220.9	5.4	150.3	5.0*	201.4	5.0*
	7	95.1	5.0*	137.0	5.0*	187.5	5.0*	99.8	5.0*	141.6	5.0*	203.3	5.0*	277.1	9.1	205.6	5.0*	139.8	5.0*	187.5	5.0*
	7 1/2	88.8	5.0*	128.0	5.0*	175.3	5.0*	93.2	5.0*	132.4	5.0*	190.2	5.0*	259.4	7.9	192.3	5.0*	130.6	5.0*	175.3	5.0*
	8	83.3	5.0*	120.2	5.0*	164.6	5.0*	87.5	5.0*	124.2	5.0*	178.6	5.0*	243.8	6.9	180.6	5.0*	122.6	5.0*	164.6	5.0*

* Propex Concrete Systems' recommended addition rate for Novomesh 950 is 5.0 lbs per cubic yard. Fiber performance should not be based solely on an Average Residual Strength value but on the specific application and overall concrete performance required for that application.

Comments:

- Represents fiber dosages based upon yield stress - f_y , where $f_y = 75,000$ psi for WWF and 60,000 psi for rebar
- Reinforcement assumed at mid-depth of slab
- Contraction Joint Spacing per ACI Guidelines - See ACI 302 & ACI 360
- Slab Thickness based on project requirements - per ACI and PCA guidelines for slab on ground design
- Chart Limits: 5-pcy minimum, 10-pcy maximum (For quantities outside this range consult your local Propex Concrete Systems Rep)
- Chart values based on ASTM C1399 ARS Values
- For slabs thicker than 8" consult your local Propex Concrete Systems Representative.
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Don't Specify Novomesh 950 for:

- Increasing joint spacing beyond the guidelines of ACI and PCA
- Replacing structural levels of steel reinforcement

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Novomesh® 950 Conversion Chart {4,000-psi Concrete} For Commerical and Light Industrial Slab On Ground Applications																					
Designation	6" x 6" W2.0 x W2.0		6" x 6" W2.9 x W2.9		6" x 6" W4.0 x W4.0		4" x 4" W1.4 x W1.4		4" x 4" W2.0 x W2.0		4" x 4" W2.9 x W2.9		4" x 4" W4.0 x W4.0		#3 rebar @ 12 in. x 12 in.		#3 rebar @ 18 in. x 18 in.		#4 rebar @ 24 in. x 24 in.		
	A _s (in2/ft)	0.040		0.058		0.080		0.042		0.060		0.087		0.120		0.110		0.074		0.100	
		pcy		pcy		pcy		pcy		pcy		pcy		pcy		pcy		pcy		pcy	
Slab Thickness (in.)	4	165.6	5.0*	238.2	6.5	325.1		173.8	5.0*	246.1	7.1	352.4		478.3		356.2		243.0	6.8	325.1	
	4 1/2	147.5	5.0*	212.3	5.0	290.2	10.0	154.8	5.0*	219.5	5.3	314.7		427.9		318.1		216.6	5.1	290.2	10.0
	5	133.0	5.0*	191.6	5.0*	262.1	8.1	139.6	5.0*	198.0	5.0*	284.2	9.6	387.1		287.4	9.8	195.5	5.0*	262.1	8.1
	5 1/2	121.1	5.0*	174.5	5.0*	238.9	6.6	127.1	5.0*	180.4	5.0*	259.2	7.9	353.4		262.1	8.1	178.0	5.0*	238.9	6.6
	6	111.1	5.0*	160.2	5.0*	219.5	5.3	116.6	5.0*	165.6	5.0*	238.2	6.5	325.1		240.8	6.7	163.5	5.0*	219.5	5.3
	6 1/2	102.7	5.0*	148.1	5.0*	203.0	5.0	107.7	5.0*	153.1	5.0*	220.3	5.4	301.0		222.8	5.5	151.1	5.0*	203.0	5.0*
	7	95.4	5.0*	137.7	5.0*	188.8	5.0*	100.1	5.0*	142.4	5.0*	204.9	5.0*	280.2	9.3	207.2	5.0	140.5	5.0*	188.8	5.0*
	7 1/2	89.1	5.0*	128.6	5.0*	176.5	5.0*	93.5	5.0*	133.0	5.0*	191.6	5.0*	262.1	8.1	193.7	5.0*	131.3	5.0*	176.5	5.0*
	8	83.6	5.0*	120.7	5.0*	165.6	5.0*	87.7	5.0*	124.8	5.0*	179.8	5.0*	246.1	7.1	181.9	5.0*	123.2	5.0*	165.6	5.0*

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