



Nycon, Incorporated
 101 Cross Street
 Westerly, RI 02891
 Phone: (800) 456-9266
 Phone: (401) 596-3955
 Fax: (401) 596-4242
 E-mail: nycon@nycon.com
www.nycon.com

This MANU-SPEC® utilizes the Construction Specifications Institute (CSI) *Manual of Practice*, including *MasterFormat™*, *SectionFormat™* and *PageFormat™*. A MANU-SPEC is a manufacturer-specific, proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets (); delete optional text in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This MANU-SPEC specifies synthetic fiber reinforcing composed of pure nylon filamentized fiber bundles used for secondary reinforcement of concrete marketed under the trade name Nycon by Nycon®, Incorporated. Nycon markets a line of high strength fibers to reduce plastic shrinkage cracking and permeability, increase resistivity and prolong the overall service life of concrete. Revise MANU-SPEC section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles, including 03050 Basic Concrete Materials & Methods; 03200 Concrete Reinforcement; 03300 Cast-In-Place Concrete; 03310 Structural Concrete; 03330 Architectural Concrete; and 03400 Precast Concrete.

SECTION 03240
FIBROUS REINFORCING

PART 1 GENERAL

1.01 SUMMARY

Specifier Note: The primary application of Nycon fibers is secondary reinforcement of concrete flatwork, including slabs on-grade, elevated decks, sidewalks, driveways, curbing and patios. Other applications include precast and cast-in-place concrete items, such as septic tanks, burial vaults, cast stone, swimming pools and tilt-up, retaining noise abatement and architectural walls as well as shotcrete, gunite and ultra-thin whitetopping applications. This section is intended to be used in conjunction with and as a supplement to other specification sections.

- A. Section Includes: Fibrous reinforcing for concrete.

Specifier Note: Revise Paragraph below to suit project requirements. Add section numbers and titles per CSI *MasterFormat* and specifier's practice.

- B. Related Sections: Section(s) related to this section include:
 1. Concrete Pavement: Division 2 Rigid Pavement Section.
 2. Cast-In-Place Concrete: Division 3 Cast-In-Place Concrete Sections.
 3. Precast Concrete: Division 3 Precast Concrete Sections.

Specifier Note: Article below can be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 1 References Section may establish the edition date of standards. This Article does not require compliance with standards, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.



Nycon, Incorporated

1.02 REFERENCES

- A. General Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation of number, title, or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.
- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM C1116 Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
- C. International Conference of Building Officials Acceptance Criteria 32.
- D. Council of American Building Officials/International Code Council National Evaluation Report 433.

Specifier Note: The fibers are listed in the Underwriters Laboratories, Inc. (UL) Fire Resistance Directory in the Fiber Reinforcement Section, CBXQ, as R14530. They are approved for floor and ceiling designs D700, D800, D900 and D924 for both normal and lightweight concrete.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor either before, during or after construction. Coordinate this Article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 1 Submittal Procedures Sections.

1.03 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit product data, including manufacturer's SPEC-DATA® product sheet, for specified products.

Specifier Note: Coordinate Paragraph(s) below with other specification sections for concrete, including concrete mix design.

- C. Quality Assurance Submittals: Submit the following:
 - 1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
 - 2. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and physical requirements.
- D. Closeout Submittals: Submit the following:
 - 1. Warranty: Warranty documents specified herein.

Specifier Note: Article below should include prerequisites, standards, limitations and criteria which establish an overall level of quality for products and workmanship for this section. Coordinate Article below with Division 1 Quality Assurance Sections.

1.04 QUALITY ASSURANCE

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements. General statements to comply with a particular code are typically addressed in Conditions of the Contract and repetitive statements should be avoided. Add to Paragraph below specific code approvals for such codes as BOCA, SBCCI, ICBO and local building codes applicable to project. Include requirements for material fire classification from regulatory agency applicable to project.

- A. Regulatory Requirements: Fibrous reinforcing shall comply with the following:
 - 1. Council of American Building Officials, NER Report #433.

Specifier Note: Coordinate Article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty) Section. Coordinate with warranty requirements for concrete specifications.

1.05 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under the Contract Documents.

Specifier Note: Coordinate Paragraph below with manufacturer's warranty requirements.

- 1. Warranty Period: (Specify term.) years commencing on Date of Substantial Completion.

PART 2 PRODUCTS

Specifier Note: Retain Article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.01 FIBROUS REINFORCING

- A. Manufacturer: Nycon, Incorporated.

Specifier Note: Paragraph below is an addition to CSI *SectionFormat* and is a supplement to MANU-SPEC. Retain or delete Paragraph below per project requirements and specifier's practice.

- 1. Contact: 101 Cross Street, Westerly, RI 02891; Telephone: (800) 456-9266, (401) 596-3955; Fax: (401) 596-4242; E-mail: nycon@nycon.com; website: www.nycon.com.

Specifier Note: Nycon fibers are pure nylon filamentized fiber bundles. They are engineered specifically for use in concrete and are typically 3/4" (19.1 mm) long. Custom fiber lengths are available.

- B. Proprietary Product(s)/System(s): Nycon-RC Fibers.
 - 1. Material Standard: ASTM C1116 for material specifications and performance requirements.

2.02 PRODUCT SUBSTITUTIONS

- A. Substitutions: No substitutions permitted.

2.03 RELATED MATERIALS

- A. Concrete: Refer to Division 3 Concrete Sections for cast-in-place concrete materials, including shotcrete and precast concrete materials.

2.04 MIXES

- A. Mixing: Mix proprietary materials in accordance with manufacturer's instructions, including product data and product technical bulletins.
 - 1. Fibrous Reinforcing: Add Nycon fibers to concrete mix at a rate of 1 lb/cu yd (0.60 kg/m³) of concrete.

2.05 SOURCE QUALITY

- A. Source Quality: Obtain fibrous reinforcing product from a single manufacturer.

PART 3 EXECUTION

Specifier Note: Article below is an addition to the CSI *SectionFormat* and a supplement to MANU-SPEC. Revise Article below to suit project requirements and specifier's practice.

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog



Nycon, Incorporated

installation instructions and product packaging instructions for installation.

3.02 PREPARATION

- A. Concrete Batching: Add fibrous reinforcement to concrete mix at concrete batch facility at correct amount for each type of concrete.
 - 1. Refer to other concrete specification sections for concrete mix requirements.

Specifier Note: Coordinate Article below with manufacturer's recommended installation details.

3.03 INSTALLATION

- A. Fibrous Reinforced Concrete Placement: Refer to Division 3 Concrete Sections for placement, curing and finishing of fibrous reinforced concrete.

3.04 FIELD QUALITY REQUIREMENTS

Specifier Note: Edit Paragraph below. Establish number and duration of periodic site visits with Owner and manufacturer and specify below. Consult with manufacturer for services required. Coordinate Paragraph below with Division 1 Quality Assurance Sections and Part 1 Quality Assurance Submittals herein. Delete if manufacturer's field service not required.

- A. Manufacturer's Field Services: Upon Owner's request, provide manufacturer's field service consisting of product use recommendations for batching and mixing of fibrous reinforcing in accordance with manufacturer's instructions.
 - 1. Site Visits: (Specify number and duration of periodic site visits).

END OF SECTION