

FIREQUIP™

SPECIFICATION SHEET

DJ 800 NYLON RUBBER LINED



FIREQUIP MUNICIPAL FIRE HOSE DJ 800 NYLON-RUBBER LINED SPECIFICATIONS

Fire hose is one of the most important tools used by the fire department. As such, the following specification must be strictly adhered to unless the proposed specification exceeds specification listed. Only the fire department can determine if a proposed product meets and exceeds these specifications.

TECHNICAL INFORMATION

NFPA Standard: The hose must meet all the requirements of **NFPA 1961**, *Standard on Fire Hose (2007 Edition)*.

Jackets: The jackets shall be evenly and firmly woven, free from unsightly defects, dirt, knots, lumps, and irregularities of twist that might affect the serviceability of the finished product.

Each jacket shall be seamless and shall have polyester filler yarns woven around the hose throughout its length, with the warp ends interwoven with warp yarn and covering the filler yarn.

Warp ends of both the inner and outer jackets shall be nylon 6.6 entangled filament yarn, allowing outer jacket to be impregnated with an abrasion resistant, water repellent, heat resistant compound. The use of polyester or staple yarns in the warp is not allowed.

Filler yarns of both the inner and outer jackets shall be high-tenacity filament polyester developed, designed, and processed for fire hose jacket filler yarns. These filament polyester yarns shall be free from defects that are unsightly or may affect the serviceability of the finished hose. The entangled nylon warp ends must completely cover and protect the filament polyester filler yarns.

The inner jacket shall be of reverse twill weave.

Wear Guard Impregnation: Each outside jacket shall be completely impregnated by a mechanical process to provide coverage of an abrasion-resistant, water-repellent, heat resistant compound prior to the jackets and liner being combined. Coating applied to finished hose, allowing varied absorption to the inside jacket, is not acceptable.

Lining: The rubber lining shall be a single ply extrusion of EPDM polymer which naturally resists ozone and oxidation. Styrene butadiene rubber (SBR) which is not a natural resistor is Not Acceptable. Thermoplastic liners such as polyurethane are also Not Acceptable. The surface must be smooth and free from corrugations. The lining thickness shall be tightly controlled to reduce weight and kink radius.

Thickness:	1½", 1¾, & 2½":	0.034 to 0.046"
	3":	0.042 to 0.046"

Tensile Strength: 1600 psi minimum.

Elongation: 400% minimum (1" to 6")

Ozone Resistance: Lining specimens shall be subjected to ASTM D 1149-91, "Standard Test Method for Rubber Deterioration — Surface Ozone Cracking in a Chamber". Specimens shall be prepared in accordance with ASTM D 518-86, "Standard Test Method for Rubber Deterioration — Surface Cracking", Procedure C, and shall be elongated 15%. Ozone concentration shall be 100+/- 5 parts per hundred million by volume. Temperature shall be 40.0° +/- 1.0° C (104° F). Time shall be 100 hours

There shall be no appearance of cracking or crazing when viewed under a 7-power magnifying glass at any time during or at the end of the 100 hour exposure.

Accelerated Aging: Lining specimens shall be subjected to ASTM D573-88, "Standard Test Method for Rubber — Deterioration in an Air Oven". Specimens shall be exposed to 70° +/- 1° C temperature for a duration of 166 +/- 2 hours and shall be allowed to rest for 24 +/- 1 hour before testing. The tensile strength and ultimate elongation of the rubber lining after aging shall not be less than 75 percent of the original tensile and elongation.

Adhesion: The adhesive must be of uniform thickness around the circumference of the lining. Calendered adhesive with an overlap is Not Acceptable. The adhesion shall be such that the rate of separation of a 1½" strip of lining, transversely cut, shall not be greater than 1" per minute under a weight of 18 lbs. - - No Exceptions. Thickness of liner and adhesive shall not exceed 0.052" for 1½" through 2½" hose, and 0.062" for 3" hose.

Low Temperature Flexibility: the hose shall be capable of performing in extreme cold temperature conditions. A 3-foot section of hose shall be exposed to a temperature of -54° +/- 2° C (-65° +/-3° F) for a period of 24 hours. At the end of the exposure period, and while maintained at the -55°C exposure temperature, the hose shall be rapidly bent 180° double on itself, first one way and then the other. There shall be no cracking or breaking of the jacket or liner. Leakage shall be cause for rejection.

Hydrostatic Test:

- (A) Hydrostatic tests shall be conducted on hose equipped with the couplings to be delivered in accordance with NFPA 1961.
- (B) Each length of hose is to be subjected to a hydrostatic proof test pressure of 800 psi for at least 15 seconds and not more than 1 minute. Higher test pressures which may weaken the hose are expressly forbidden.
- (C) Twist: The hose shall not twist more than 4-1/4 turns per 50 ft for the 1½", 1¾", and 2" sizes, and not more than 1¾" per 50 ft for the 2½" and 3" sizes under a pressure of 800 psi. No final twist in a direction to loosen the couplings shall be permitted.
- (D) Warp: The hose shall not warp more than 20" from a straight line drawn from center to center of the fittings at the ends of the hose, and the hose shall not rise from the table.
- (E) Expansion: The expansion in circumference of the hose between 10 and 800 psi shall not exceed 8%.
- (F) Elongation: The elongation between 10 and 800 psi shall not exceed 8% for the 1½, 1¾", 2", and 2½" sizes, and shall not exceed 10% for the 3" size.

Burst Test: A 3-foot sample of hose chosen at random shall stand without failure a hydrostatic pressure of 1200 psi while lying straight or curved on a 27" radius. Retention of the coupling to the hose shall equal or exceed the burst pressure.

Kink Test: A full length shall withstand, while kinked, without failure, a hydrostatic pressure of 600 psi.

Diameter: The hose shall have an internal diameter of not less than the trade size of the hose, except that internal diameter of the 2½" hose shall not be less than 2-9/16".

Method of Testing:

- (A) All measurements and tests necessary to determine compliance of the fire hose with the specified requirements shall be made in accordance with ASTM D 380-87, "Standard Test Methods for Rubber Hose", except as otherwise specified.
- (B) All tests shall be conducted at the point of manufacture, or at a laboratory equipped for such testing. All tests shall be performed as specified in NFPA 1961 (2007 Edition). Hydrostatic tests shall be conducted under controlled conditions employing equipment capable of supplying a uniform pressure.

Service Life: The fire hose furnished under the terms of this proposal has a potential service life of 10 years, barring mistreatment or accidental damage that would render the hose unfit for service. Upon delivery, the fire hose shall be in first-class condition free from defects in workmanship and materials. The supplier shall provide replacement of any such hose as may be defective without any charge whatsoever to the Fire Department.

Warranty: The manufacturer warrants the hose to be free from defects in materials or workmanship for a period of ten years. This warranty shall provide for the repair and replacement of hose and couplings proven to have failed due to faulty material or workmanship.

DJ800 NYLON RUBBER LINED PERFORMANCE AND WEIGHT CHART

Hose Size	Proof Test Pres. (psi)	Service Test Pres. (psi)	Burst Test Pres. (psi)	Coupling Bowl Size (in.)	Weight per 50' Uncoupled (lbs)	Coil dia. Per 50' (in.)
1½"	800	400	1200	1-15/16	17	18
1¾"	800	400	1200	2-1/8	19	18
2 "	800	400	1200	2-7/16"	24	20
2½"	800	400	1200	3"	30	20
3"	800	400	1200	3-1/2"	36	21

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