

# FIREQUIP™



## SPECIFICATION SHEET

### COMMANDER SUPREME



# FIREQUIP COMMANDER SUPREME DOUBLE JACKET 800 HEAVY DUTY FIRE HOSE 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:

1. The hose must meet all the requirements of NFPA 1961, Standard on Fire Hose Edition (2007 Edition).
2. **Jackets:** The jackets shall be evenly and firmly woven, free from unsightly defects, dirt, knots, lumps, irregularities or 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 the warp yarn covering the filler yarns. The inner jacket shall be of reverse twill weave, to allow for a smooth liner.

Warp ends of both the inner and outer jackets shall be spun staple polyester developed, designed and processed for the fire hose jacket warp yarns. The use of nylon, polyamide, or rayon yarns used in the warp or filler direction is not allowed. The use of any warp yarns of filament or entangled construction is expressly forbidden.

Filler yarns of both the inner and outer jackets shall be high-tenacity filament polyester developed, designed, and processed for the 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 staple polyester warp ends must completely cover and protect the filament polyester filler yarns.

3. **Impregnation:** When specified, 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.
4. **Wear Guard:** When specified, is a treatment for maximum abrasion resistance. This is a specially developed impregnated coating with a built in flame retardant. Wear Guard is applied to the outer jacket by a mechanical process which increases abrasion resistance by 6 times over standard impregnation. It greatly increases heat and flame resistance, almost eliminates water pickup and adds superb resistance to petro chemicals and displays extreme resistance to bacterial and mildew growth.
5. **Lining:** The rubber lining shall be a single ply extrusion of EPDM rubber with a .060" thick tube produced in a Calendar Backed process. This hose naturally resists ozone and oxidation. Styrene butadiene rubber (SBR) which is not a natural resistor is Not Acceptable as a liner. Polyurethane is 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.

6. **Thickness:**

1½", 1¾, 2" & 2½":	.060 "
3":	.062 "
Tensile Strength:	1600 psi minimum
7. **Elongation:** 500% minimum

8. **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.
10. **Adhesion:** The rubber backing must be of uniform thickness around the circumference of the lining. 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 rubber backing shall not exceed 0.060" for 1½" through 2½" hose, and 0.062" for 3" hose.
11. **Low Temperature Flexibility:** The hose shall be capable of performing in sub-zero 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.
12. **Hydrostatic Test:** Hydrostatic tests shall be conducted on hose equipped with the couplings to be delivered in accordance with NFPA 1961. Each length of hose is to be subjected to a hydrostatic proof test pressure on 800 psi for at least 15 seconds and not more than 1 minute. Higher test pressures which may weaken the hose are expressly forbidden.
13. **Twist:** The hose shall not twist more than 4-1/4 turns per 50 ft. for the 1½", 13/4", and 2" sizes, and not more than 1 ¾ turns 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.
14. **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.
15. **Expansion:** The expansion in circumference of the hose between 10 and 800 psi shall not exceed 8%.
16. **Elongation:** The elongation between 10 and 800 psi shall not exceed 8% for the 1½, 1 ¾", 2" and 2½" sizes, and shall not exceed 10% for the 3" size.
17. **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.
18. **Kink Test:** A full length shall withstand, while kinked, without failure, a hydrostatic pressure of 600 psi.
19. **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".
20. **Method of Testing:** All measurements and tests 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. 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.
21. **Service Life:** The fire hose furnished under the terms of this proposal has a potential service life of ten 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.
22. **Warranty:** The manufacturer warrants the hose to be free from defects in materials and workmanship for a period of ten years. This warranty shall provide for the repair or replacement of hose and couplings proven to have failed due to faulty material or workmanship

### FIREQUIP COMMANDER SUPREME PERFORMANCE AND WEIGHT CHART

Hose Size	Proof Test Pressure (psi)	Service Test Pressure (psi)	Burst Test Pressure (psi)	Coupling Bowl Size (in.)	Weight per 50' Uncoupled
1 ½"	800	400	1200	1-15/16"	19 lbs
1 ¾"	800	400	1200	2-1/8"	22 lbs
2 ½"	800	400	1200	3"	35 lbs
3"	800	400	1200	3-9/16"	39 lbs

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