

Helmets for Structural Firefighting shall meet or exceed NFPA 1971 Standard on Protective Ensemble for Structural Fire Fighting 2007 Edition (Pertaining to Structural Fire Helmets).

Certification/verification shall be furnished by written documentation supplied by a recognized independent third party test laboratory.

A sample helmet meeting the requirements of this specification shall be supplied upon request for inspection and verification of compliance within 10 working days.

The authority having jurisdiction reserves the right to accept bids submitted per their evaluation based upon compliance to the standard performance and any other applicable requirements concerning fit and function.

The authority having jurisdiction reserves the right to accept the most appropriate helmet based on the above stated criteria without regard to lowest price offerings.

Successful bidders shall ship helmets per award from the manufacturer within 14 working days of receipt of order from the distributor.



### General

Helmets conforming to this specification are designed to help protect the firefighter from head and neck injuries related to structural firefighting activities.

The helmet manufacturer shall be a certified ISO 9001 company to assure quality procedures and production capabilities.

### Physical Configuration

The basic helmet shall be a flared, rear-brim design with a length of 15-5/8", a width of 12-1/4" (at the faceshield hardware) and a height of 7".

### Shell

The helmet shell shall be of Traditional style with four primary and four secondary ribs bisecting the dome. The shell shall be comprised of a composite fiberglass with a thermoset resin. Color pigment shall be added to the resin as part of the manufacturing process that molds the helmet to help maintain appearance by masking chips and scratches that might occur in daily wear and tear. The shell finish shall be a non-glossy, "matte" style and shall be available in yellow, red, and black. White matte-style fiberglass helmets are not acceptable due to the likelihood of undesirable UV discoloration.

The edge of the composite shell shall have an aluminum reinforced, elastomeric edge beading that is secured at the rear of the brim by a stainless steel clip and D-ring fastened by a stainless steel rivet. The edge beading shall not melt, drip or ignite when tested to NFPA 1971-2007 Section 5-2.4 Heat Resistance requirement.

A stamped, embossed, brass sheet front shall be provided in the form of an eagle to be attached by two solid brass bolts and nuts. The beak of the eagle shall be formed to hold the top of a leather identification shield. Two brass, support arms shall fork and extend downward from the eagle head 3-1/2" from the tip of the eagle beak to form the lower supports for attachment of the leather identification shield. An arched, brass bar shall be attached to the two lower support arms of the eagle to form a cross bar support. An 8-32 threaded hole shall be provided at the lower support arms of the eagle to accept the two brass screws which hold both the cross bar support and the leather identification shield.

### Impact Liner System

The impact liner shall consist of a urethane foam liner glued to a black high-heat resistant inner shell with a heat deflection temperature > 220° F @ 264 psi. The urethane foam liner shall be formed without the use of CFCs to eliminate the potential for additional expansion when subjected to heat during actual use.

The black inner shell shall have four 1" x 3" pieces of adhesive-backed Velcro® hook material attached, two to each side, to secure the ear/neck protector at the sides of the inner shell.

### Crown Strap Suspension System

The crown strap suspension system shall be three 3/4" nylon web straps attached to six nylon keys. The keys shall be locked into the lip of the inner shell against the urethane impact liner.

### Ratchet Headband

The helmet shall have a quick-adjustment sizing capability by means of a ratchet adjustment system attached to a heat-resistant nylon headband. The headband shall be attached to the inner shell by four black acetal buttons (two front, two rear). The headband shall have the ability to be raised or lowered inside of the inner shell by location points on the headband. This adjustment shall not affect the height of the helmet on the firefighter's head.



The ratchet portion of the headband shall have a ratchet height adjuster located at the rear of the headband, inside of the inner shell, to permit the ratchet to be positioned for comfort on the nape of the firefighter's head. This ratchet height adjuster shall permit at least 1" of travel by means of three height adjustment keys for proper fit. This independent adjustment component shall have a 3/4" piece of adhesive-backed Velcro hook material attached at the center rear of this component to secure the rear portion of the ear/neck protector.

#### **Brow Pad**

The headband shall be supplied with a fire retardant (FR) cotton brow pad, backed with foam cushion padding material at the forehead, that is removable for laundering and replacement. Attachment to the headband with stitching will not be permitted. A leather brow pad option must be available.

#### **Chinstrap**

The chinstrap shall be two pieces of 3/4" black Nomex® webbing with a super tough nylon quick release buckle and a chrome-plated postman's slide fastener.

The male side of the quick-release buckle shall be anchored to the right side of the outer shell with a dielectric anchor block secured to the faceshield mounting bracket with two stainless steel screws and two stainless steel acorn nuts. The long portion of the chinstrap with the female side of the quick-release buckle and the postman's slide fastener shall be attached to the left side of the outer shell in the same manner.

When the chinstrap is connected and fully extended, maximum length shall be at least 24" when measured from one anchor block to the opposite anchor block.

#### **Ear/Neck Protector**

The ear/neck protector shall consist of a 6 oz. rip-stop Nomex outer shell backed with two layers of FR cotton flannel for comfort and protection. A 1" strip of Velcro loop material shall be stitched in one continuous band across the top of the outer shell of the ear/neck protector for attachment to the inner shell.

When properly attached to the inner shell of the helmet, the ear/neck protector shall have the following minimum coverage to the sides and rear of the helmet brim:

1. 6" from the sides of the helmet brim at the chinstrap.
2. 6-1/2" from the center rear of the helmet brim.

#### **Faceshield**

The faceshield shall be a hard-coated PPC material 4" x 15" that is molded in the formed position and designed to fit the contour of the helmet brim. The faceshield shall be certified to meet the optic requirements of ANSI Z87.1-2003 Standard for Eye and Face Protection. This certification shall meet NFPA 1971 requirements for heat and impact performance.

When mounted, the faceshield shall permit a minimum retractability of 90° in the stowed position.

The faceshield shall be mounted to the brim of the outer shell by a glass-reinforced, flame resistant, nylon handwheel/stainless steel threaded stud attached to a brass T-nut which is supported by an aluminum washer and mounting bracket. The faceshield hardware shall meet the NFPA 1971-2007 Flame Resistance Test. The mounting bracket shall be secured to the brim of the outer shell by the chinstrap screws and acorn nuts. A thermoplastic spacer washer shall be used to bridge the mounting bracket adjoining the edge beading.

#### **Retro-reflective Trim**

The outer shell shall have 8 pentagon-shaped, fluorescent lime-yellow, retro-reflective markings equidistantly located around the circumference of the dome. The reflective materials shall be glass bead based to maximize the resistance to heat exposure experienced in firefighting. Vinyl based reflective materials will not be considered equal.

#### **Warranty**

The manufacturer shall warrant to the original purchaser that the entire helmet (excluding faceshield) shall be free of defects in material and workmanship, under normal use and service, for a period of two years from the date of manufacture. The faceshield is not warranted.

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