

## General

Helmets for Structural Firefighting shall meet or exceed NFPA 1971, Standard on Protective Ensemble for Structural Fire Fighting and Proximity Fire Fighting, (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.

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" and a height of 7".

## Shell

The shell shall be comprised of a composite fiberglass with a thermoset fire-retardant resin. Color pigment shall be added to the resin as part of the manufacturing process that molds the helmet to maintain appearance by masking chips and scratches that might occur in daily wear and tear. The shell finish shall be available in matte: white, yellow, red, and black and and gloss painted: black, yellow, white, orange, blue and green. 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 brass clip and D-ring fastened by a brass rivet. The edge beading shall not melt, drip, or ignite when tested to NFPA 1971 Section 8.6 Heat Resistance requirement.

## Leather Front & Holders

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 covering a black heat resistant nylon inner shell with a Heat Deflection Temperature >180°C for ASTM D648, 0.45 MPa. 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 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. 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.



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## 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 which connects to two "U"-shaped thermoplastic adjustment components at the front and rear of the headband. These mechanisms shall allow the wearer six (6) unique combinations of pitch and ride height adjustments at both the front and rear of the headband for a total of thirty-six (36) discrete adjustment settings. The headband height adjuster shall permit at least 1" of travel by means of three height adjustment keys for proper fit. This adjustment shall not affect the height of the helmet on the firefighter's head. The rear 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 sewn around the perimeter, 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.

## 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 with dog-bone washer secured to the mounting bracket with two stainless steel screws seated in thermoplastic sleeves. For helmets with internal integrated visor, the chinstrap shall be secured on each side with three stainless steel screws: the front two screws attaching with a dielectric anchor block, the rear screw secured via acorn nut. 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 three layers of FR cotton flannel for comfort and protection. A 1" strip of 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.

## Eye Protection

Per the requirements listed in NFPA 1971, one of the following eye protection options must be specified with the helmet.

### ReTrak™ Internally Integrated Visor

The visor, when not deployed, shall store in a protected fashion between the inner liner and the outer shell. The visor shield shall meet the requirements of ANSI/ISEA Z87.1, Standard for Eye and Face Protection. This certification shall meet NFPA 1971 requirements for heat and impact performance. The visor material shall be a high heat polyarylate. A nose comfort pad shall be provided. The visor shall be optically correct with a scratch resistant coating on the inner and outer surfaces. The visor shall be deployable by the wearer with a single hand.

The visor shall transverse across two axes of movement to accommodate most eyeglasses, safety glasses, or other protective eyewear. No tools shall be required for the wearer to remove the eye shield for cleaning, decontamination, or replacement. Visor must be held in place by retainer latches. Latches must be able to be actuated with the use of a single finger.

### Faceshield

The faceshield shall be a hard-coated polyarylate 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/ISEA Z87.1 Standard for Eye and Face Protection. This certification shall be in addition to compliance with NFPA 1971 requirements for heat and impact performance. 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 washer and mounting bracket. The faceshield hardware shall be tested to NFPA 1971 Flame Resistance Test. The mounting bracket shall be secured to the brim of the outer shell by the chinstrap screws.



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## Bourkes

The Bourkes visor shall be 3.9mm thick high heat polyarylate material with anti-scratch coating on the inner and outer surfaces. The visor shall consist of two separate lenses joined by a hinge spring, mounted under the shell front brim using two screws, and be deployable by the wearer with a single hand. The visor shall meet the requirements of ANSI/ISEA Z87.1, Standard for Eye and Face Protection - this certification shall be in addition to NFPA 1971 requirements for heat and impact performance.

## Goggles

The goggle shall be full-perimeter filtered ventilated around the dark-gray molded frame. The lens shall be 2.8mm polycarbonate with anti-fog and anti-scratch coatings. The goggle shall be certified to meet the optic requirements of ANSI/ISEA Z87.1 Standard for Eye and Face Protection. The goggle strap system shall include a quick adjustment for length/ tension that can be used while wearing firefighter gloves. The goggle shall be retained by either a direct connection of two goggle straps that attach to the left and right sides of the inner shell system, or via a full goggle strap that fit around the outer shell.

## 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. Options of colors must include lime-yellow and red orange (standard) as well as optional trim in lime-yellow, red-orange, and maple leaf.

## Weight

### Helmets with Internally Integrated Visors or Goggles

Basic configurations of helmets with internally integrated visors or goggles shall weight less than 3.40 lbs. (54.4 oz.). In addition to the integrated visor system, these configurations shall include: composite outer shell, retro-reflective trim, edge beading with D-ring, leather front holder, impact liner system, headband and suspension system, chinstrap, and Ear/Neck Protector.

### Helmets with External Faceshields

Basic configurations of helmets with externally mounted faceshields shall weight less than 3.90 lbs. (62.4 oz.). In addition to the faceshield, these configurations shall include: composite outer shell, retro-reflective trim, edge beading with D-ring, leather front holder, impact liner system, headband and suspension system, chinstrap, and Ear/Neck Protector.

## TrakLite®

Helmet shall be made available with optional integrated light. Full product specifications of integrated light can be found on our website: <https://www.bullard.com/product/traklite>

## Warranty

Bullard warrants to the original purchaser that the firefighter helmet is free of defects in materials and workmanship under normal use and service for a period of five (5) years from the date of manufacture on the helmet shell and lifetime (as defined in NFPA 1851: 10 years) warranty on the non-electronic components.

**Bullard Center**  
2421 Fortune Drive  
Lexington, KY 40509 • USA  
877-BULLARD (285-5273)  
Tel: +1-859-234-6616  
Fax: +1-859-246-0243

**Americas Operations**  
1898 Safety Way  
Cynthiana, KY 41031 • USA  
877-BULLARD (285-5273)  
Tel: +1-859-234-6616  
Fax: +1-859-234-8987

**Bullard GmbH**  
Dieselstrasse 8a  
53424 Remagen • Germany  
Tel: +49-2642 999980  
Fax: +49-2642 9999829

**Bullard Asia Pacific Pte. Ltd.**  
51 Changi Business Park  
Central 2  
#03-04 The Signature  
Singapore 486066  
Tel: +65 6745 0556



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