



MSA Cairns® FIRE HELMET PRODUCT SPECIFICATION

PRODUCT TYPE:

Structural Firefighting Helmet

PRODUCT MODEL(S):

MSA Cairns N6A Houston Leather Fire Helmet

PURPOSE:

To supply a uniform, standard product specification for a leather structural fire helmet.

SCOPE:

The scope of this product specification encompasses the performance criteria, design, construction and materials deemed necessary for helmets utilized for structural firefighting.

GENERAL:

Helmets manufactured in accordance with this specification are designed to mitigate adverse environmental effects to the firefighter's head while providing the specifying authority with what are, in their opinion, essential requirements.

PERFORMANCE CRITERIA/STANDARDS:

MSA Cairns N6A Houston Fire Helmet, with the exception of the natural color shell, shall meet the requirements of NFPA 1971:2018 (or the current edition); US-OSHA 1910.156, and CAL-OSHA.

All eye/face protection sold as part of the original helmet assembly shall be compliant with the impact requirements of the current versions of ANSI/ISEA Z87.1 and NFPA 1971.

PERFORMANCE VERIFICATION DATA REQUIREMENT:

Response to this specification shall include a complete and current NFPA 1971 test report from a recognized, accredited test facility detailing all performance data for the helmet(s) and compliant helmet components included in the original assembly. Certificates of conformance and/or letters of certification alone shall not be acceptable. Component testing is not acceptable. Certification testing is conducted every year to a random lot size, as per NFPA requirements.

MANUFACTURER'S WARRANTY:

MSA warrants MSA Cairns Fire Helmets manufactured on or after January 1, 2015, to be free from defects in materials and/or faulty workmanship for a period of ten (10) years from the date of manufacture by MSA. For warranty details, please see "10-Year Warranty and Terms of Sale" (ID 3600-72-MC / February 2015). For MSA Cairns Fire Helmets manufactured prior to January 1, 2015, please refer to ID 3600-09-MC / Jan 2005). All warranty documents can be found on the MSA website (MSAsafety.com).



PRODUCT VISUAL(S):



MSA Cairns N6A Houston Fire Helmet with NFPA Bourke Lenses and Bronx Bend

HELMET SHELL:

The MSA Cairns N6A Houston Fire Helmet shall be of a traditional American Fire Service style. The shell shall be made of a four-piece crown section with ribbed reinforcement and a brim section with a short brim in front continuing around the sides with a large rear area. The crown section shall be comprised of eight combs (i.e., ribs). There shall be one folded rib in each of the four crown sections and four joint combs between these sections to form four major reinforcing ribs. Stitching to be 4-cord mercerized cotton thread in #8-10 gauge, to have not more than 10 nor less than 8 stitches per inch.

The brim section shall be a one piece leather section, stitched to the crown section with two rows of stitching. The outside edge of the brim shall be folded over and stitched around an 11 gauge, rust resistant, endless steel wire. The brim shall be embossed with the traditional ivy vine scroll work and subjected to 10 tons of pressure to get its shape and make it rigid. The leather helmet shell shall be 11-13 oz., vegetable tanned, top grain domestic steer hide, treated with strengthening hardeners.

The brim is available with a Traditional or Bronx-Style bend.

The shell is made in two sizes: medium and large.

The exterior of the shell shall be completely coated with a high gloss, high heat, chemical- and abrasion-resistant, flame-retardant finish (i.e., a color-pigmented paint or a clear lacquer).

The MSA Cairns N6A Houston Fire Helmet shall be available in the following colors; black, white, red, yellow, orange, blue, green and natural¹.

The shell shall have two threaded studs mounted to the center of the front two panels of the shell. These shall provide for positioning and retention of a standard 6" fire department identification shield (i.e., front piece) once placed and attached by two acorn nuts.

¹Natural shell color is *not* compliant with NFPA-1971:2018.



The shell shall have a helmet hanger comprised of a 3/4" nickel-plated "D" ring screwed to the center rear edge of the brim.

FRONT HOLDER:

The Cairns N6A Houston Fire Helmet shall be furnished with a formed brass front-piece holder which shall be attached to the shells front main rib, and positioned to support the top of a standard 6" front piece. Options include carved brass eagle, carved brass beaver, and carved brass dragon.

IMPACT CAP:

The impact cap is designed to help provide increased thermal, impact, and penetration protection. The impact liner shall be comprised of a layer of Lexan, which covers a rigid cell, high temperature urethane foam cap which is attached to a flame-resistant thermoplastic inner liner. The impact liner shall include a brass-retaining ring fastened to the base of the inner liner. The impact liner shall be fastened to the leather shell by mean of four brass rivets located at the base of the crown of the helmet shell.

HEAD SUSPENSION:

The MSA Cairns N6A Houston Fire Helmet shall consist of a six-way head suspension system, attached to the impact cap. The head suspension system comprises three (3) fixed 0.75" wide nylon straps mounted at six points on the impact liner and fastened at their intersection to form the 6-way overhead strap assembly. Each of the straps shall be fastened to the brass retaining ring, located at the base of the impact liner, by means of a brass rivet.

SIZING ADJUSTMENT:

The Cairns N6A Houston Fire Helmet is made in 2 adjustable size ranges; medium and large. The size of the headband may be adjusted to fit the wearer's head by means of a ratchet adjustment system. The headband shall have a head size range of 6½to 7½ for medium helmets and 7⅝ to 8 for large helmets., adjustable in 1/8" increments. The headband is attached to the sides of the impact cap liner extension tabs by thermoplastic split-buttons.

COMFORT LINER:

The lining shall be of one-piece construction, comprised of cotton sateen sewn to a foam neoprene ring. There will also be leather foam cored ratchet pad. All shall be removable and washable.

CHINSTRAP:

The chinstrap shall be constructed of three (3) pieces (or sections) of 3/4" wide, spun-Nomex webbing, which are connected by a high-temperature, durable thermoplastic quick-release buckle on the left side of the helmet, and by a cast zinc postman's slide buckle on the right side of the helmet. The middle (long) section shall bayonet into the quick release buckle on the left-hand side and feed through the postman's slide buckle on the right. The middle section shall be a minimum of 23" in length and the total length of the chinstrap shall be 35" at full extension, end to end.

The middle section shall be a minimum of 20.5" in length and the total length of the chinstrap shall be 33.0" at full extension, end to end.

The two (short) chinstrap sections, located on the left and the right hand sides of the helmet, shall be fastened to the impact liner.

The chinstrap shall also be available in a 4-pt. option.



EAR/NECK PROTECTION:

MSA Cairns N6A Houston Fire Helmet provides ear and neck protection with a 6.5” wide, 19.0” long, full-cut earlap with an expanded opening at the neck, making the ratchet adjustment easily accessible.

The double-layer earlap consists of a 4.5 oz. / yd., yellow or black colored Nomex or PBI/Kevlar® outer layer, and a flame resistant black flannel inner layer.

The earlap shall be secured under a brass band; earlaps shall be removable and washable.

RETRO-REFLECTIVE TRIM:

MSA Cairns N6A Houston Fire Helmet shall have eight (8) trahedron shaped pieces of retro-reflective trim around the exterior crown of the helmet shell for maximum visibility. Both Reflexite and Scotchlite trim shall be available. Color options include Lime-Yellow, Red-Orange, Scotchlite Triple Trim in Lime-Yellow or Red-Orange, and White. (NOTE: some options are not NFPA compliant.)

EYE PROTECTION OPTIONS (compliant to NFPA 1971/1951 and ANSI Z98+):

| <i>Name</i> | <i>Description</i> |
|----------------------------------|--|
| Faceshield and Hardware | <p><i>Faceshield</i></p> <p>The faceshield shall be a wrap-around, high pivot design, 4.5” wide, 18.0” long and 0.150” thick. The lens material shall be high performance, high-temperature, impact-resistant thermoplastic. The lens shall be coated with a scratch resistant coating on both inner and outer surfaces to protect the lens from abrasions.</p> <p><i>Hardware</i></p> <p>The faceshield shall be mounted to the helmet shell by means of two (2) glass-reinforced, high-temperature and flame-resistant thermoplastic bracket assemblies, with adjustable thermoplastic knobs one (1) on either side of the helmet shell. The brackets allow the faceshield to be raised above the brim line (with 6” front pieces) or helmet shell (with 5” front pieces) when not in use.</p> |
| Goggle System | <p>The goggle system shall be comprised of a high-temperature, flame- and impact-resistant goggle lens and frame, a flame-resistant, elastic goggle strap, and a goggle retention system. This retention system will lock the goggle onto the helmet at the back brim, preventing loss of the goggle when either stowed or donned. Both inner and outer surfaces of the goggle lens will have an anti-scratch and anti-fog coating. Both ends of the lens will be reinforced with a fiberglass insulating label for extra durability at elevated temperatures. The lens will be low profile, optically correct with a nominal thickness of 1/16”. The goggle strap will require a one-time adjustment to facilitate donning if wearing gloves.</p> |
| NFPA-Compliant Bourke Eye Shield | <p>NFPA-compliant Bourke Eye Shield shall be comprised of two polyarylate lenses (6.292” l x 2.878”w x 0.115” d, including a ~31° angle) with anti-scratch coating. The lenses pivot up and down at 90° simultaneously using a single keep and cable (spring) system. A rubber wedge fits under the entire assembly (brass plate) secured to the front center helmet shell brim. When not in use the lenses fit against the underside of the brim for minimal exposure beyond it.</p> |



Accessories

A full range of fire helmet accessories, such as customizable front pieces and front holders, is available. Please see the MSA Cairns Fire Helmet catalog and/or contact an MSA representative.

MAINTENANCE, REPAIR and RETIREMENT:

Proper maintenance, repair, and retirement of the helmet can be found in the MSA Cairns Fire Helmet Owner's Guide and on our web site (MSASafety.com). Users should also refer to NFPA-1851 (current edition) regarding proper inspection, maintenance, repair schedules, and retirement requirements for structural firefighting helmets. Upon the customer's request, an MSA representative will conduct training explaining the proper maintenance, repair and retirement of MSA Cairns Fire Helmets.

CONTACT INFORMATION:

For additional information on MSA Cairns products, please contact MSA Customer Service at 1-877-MSA-FIRE or visit us on MSAfire.com.