



MSA Cairns® FIRE HELMET PRODUCT SPECIFICATION

PRODUCT TYPE:

Structural Firefighting Helmet

PRODUCT MODEL(S):

MSA Cairns 880 Traditional Fire Helmet

PURPOSE:

To supply a uniform, standard product specification for a thermoplastic 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 880 Traditional Fire Helmet shall meet the requirements of NFPA 1971:2013 (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 editions of ANSI/ISEA Z87.1 and NFPA 1971.

The Bourke Eye Shield option does not interfere with the helmet performance requirements of NFPA 1971:2013; however, it is not compliant with ANSI/ISEA Z87.1 or NFPA 1971:2013.

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 880 Traditional Fire Helmet

HELMET SHELL:

MSA Cairns 880 Traditional Fire Helmet shall have a classic American Fire Service style helmet shell, comprising a crown, with four (4) major ribs (front, back, left and right sides), and four minor ribs equidistant between each major rib, and a brim that has a short front visor continuing around the sides to a large rear watershed area. The upper surface of the watershed shall have a textured finish with ivy scroll on the back of the watershed brim.

The helmet shell material consists of a high-temperature, flame- and chip-resistant “through-color” thermoplastic, compression-molded to form a one-piece shell.

The shell dimensions (with edge-trim) shall be 15.25” in length, 10.5” in width, and a height of 5.25”.

The shell color finish shall be available in the standard colors of red, black, blue, yellow, orange and white.

The shell shall have black, high-temperature, flame-resistant, flexible edge trim made of thermoplastic rubber (TPR) with an aluminum core. The edge-trim is secured around the entire brim of the helmet by crimping the aluminum core which simultaneously captures and retains a wire used to reinforce the brim of the helmet. The edge-trim is secured at the mating ends with a high temperature adhesive and clamped by the helmet hanger clip at the edge of the rear brim.

The shell shall have a helmet hanger comprised of a $\frac{3}{4}$ ”, nickel plated “D” ring and a stainless steel clip. The helmet hanger shall be attached to the center rear of the brim.

FRONT HOLDER:

The helmet shell shall be furnished with a collapsible brass front-piece holder which shall be attached to the main rib on the shell front, and positioned to capture the top of standard 5” or 6” fire department identification shields (i.e., front pieces). The front holder shall be either a flat brass piece with a silk-screened eagle or Maltese Cross (5” & 6”) or a formed brass eagle (6” only).

The shell shall have a thermoplastic, front-piece mounting bracket affixed to the front center of the brim. The bracket shall provide for positioning and retention of a standard 5” or 6” front pieces.

**IMPACT CAP:**

The impact cap is designed to help provide increased thermal and impact protection. The impact cap shall be a rigid cell, high temperature urethane foam cap that covers the entire inner crown of the helmet. This impact cap is held into the crown by the suspension clips. It is removable for inspection and replacement.

HEAD SUSPENSION:

MSA Cairns 880 Traditional 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. The straps are attached to the impact cap by means of a rigid plastic strap that locks the straps into the helmet shell lugs.

SIZING ADJUSTMENT:

The size of the headband may be adjusted to fit the wearer's head by means of a ratchet adjustment system. The headband is attached to the sides of the impact cap liner by four (4) flexible retention tabs. The rear ratchet arms shall have three (3) adjustable positions so that the angle of the ratchet may be set to accommodate the nape of the wearer's head. The headband height shall be adjustable at the front of the helmet via a hook and loop system to provide additional comfort to the wearer.

The headband shall have a head size range of 5-5/8 to 7-5/8, adjustable in 1/8" increments.

COMFORT LINER:

MSA Cairns 880 Traditional Fire Helmet shall have a removable comfort liner, consisting of a headband cushion and a ratchet pad. Both components made of a foam-core laminate system, comprised of a soft black flame-resistant flannel material against the user's head backed by a soft loop material secured to the headband and ratchet with hook fastener. The comfort liner is machine-washable. It can easily be upgraded to a standard flannel or deluxe leather-lined version.

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 an optional cast zinc postman's slide buckle on the right side of the helmet. 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 chinstrap is attached at either end of the impact cap by means of a stainless clip and tuck loop.

EAR/NECK PROTECTION:

MSA Cairns 880 Traditional Fire Helmet provides ear and neck protection with a 7.25" wide, 18.5" 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 outer layer, and a flame resistant black flannel inner layer. The earlap shall be secured to the impact cap by a system of hooks molded into the helmet's suspension clips.



The earlap is machine washable and can be easily upgraded to a PBI/Kevlar earlap. The ear and neck protector shall be removable without interfering with the overhead strap assembly in any way and without removing any part of the helmet suspension.

RETRO-REFLECTIVE TRIM:

MSA Cairns 880 Traditional 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.

EYE PROTECTION OPTIONS:

Name	Description
Faceshield and Hardware	<i>Faceshield</i> The faceshield shall be a wrap-around, high pivot design, 4.5" wide, 19.0" 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. <i>Hardware</i> 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.
Goggle System	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.

OTHER OPTIONS:

Bourke Eye Shield

The Bourke Eye Shield is comprised of two 2.85" (W) x 5.15" (L) x 0.115" (D) polycarbonate lenses that pivot up and down at 90° simultaneously. The lenses are fastened to a single keep and cable (spring) system that allows both lenses to move simultaneously. When not in use (i.e., up) they are low-profile against the underside of the front brim. The entire assembly is mounted to a brass plate, which is secured to front center brim of the helmet shell. **The Bourke Eye Shield does not provide protection from impact or other potential hazards to the eye; it is not compliant with ANSI/ISEA Z87.1 or NFPA 1971.**



Accessories

A full range of fire helmet accessories, such as customizable front pieces, 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.