MSA CAIRNS® FIRE HELMET PRODUCT SPECIFICATION

PRODUCT TYPE:
Technical Rescue Helmet

PRODUCT MODEL:
MSA Cairns XR2 Technical Rescue Helmet

PURPOSE:
To supply a uniform, standard product specification for a technical rescue helmet.

SCOPE:
The scope of this product specification encompasses the performance criteria, design, construction and materials deemed necessary for helmets utilized for technical rescue applications.

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

PERFORMANCE CRITERIA/STANDARDS:
MSA Cairns XR2 Technical Rescue Helmet shall meet the technical rescue requirements of NFPA 1951:2020 (or current edition), Standard on Protective Ensembles for Technical Rescue Incidents.

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.

PERFORMANCE VERIFICATION DATA REQUIREMENT:
Response to this specification shall include a complete and current NFPA 1951 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 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).

PRODUCT VISUAL(S):

HELMET SHELL:
MSA Cairns XR2 Technical Rescue Helmets shall have a technical rescue style shell with multiple reflective trim options.

The shell material shall be a high-temperature, flame-resistant thermoplastic that is injection molded to form a one-piece shell.

XR2 Helmet Colors

The exterior of the shell shall be completely coated with a color pigmented, abrasion, high heat, and chemical resistant paint finish.
The shell color and matched paint finish shall be available in the standard White, Black, Green, Blue, Yellow, Red, Grey, and HIGH-VISIBILITY Hi-Viz / Photoluminescent Yellow, Hi-Viz / Photoluminescent Orange, and Photoluminescent
Full tinted materials: Orange, Black, White, Red, Yellow.

The shell shall be molded to allow for the attachment of two accessory interface rails, front plate, rear plate, and suspension holders.

FRONT PLATE:
The helmet shell shall be furnished with a blank black front plate that is affixed to the helmet shell through click-in friction tabs. The front plate shall be customizable with pad printing options.

ACCESSORY INTERFACE RAILS:
The accessory interface rails shall be installed into the shell mold locations on either side of the shell. The Accessory Rails shall accommodate the approved accessories with a “click-in” system requiring no tools to install accessories.

HEAD SUSPENSION SYSTEM:
Adjustable plastic cradle with a fully adjustable 4 points chinstrap. (16mm strap)

SIZING AND ADJUSTMENT:
The MSA Cairns XR2 will be one size which accommodates most head sizes of 6 1/2–8 1/8 inches (52–65 cm). The size of the headband may be adjusted to fit the wearer’s head by means of a ratchet adjustment system.

The rear ratchet arms shall have three (3) adjustable positions so that the angle of the ratchet may be set to accommodate the back of the wearer’s head. The headband height shall be adjustable at the front of the helmet via sliding friction tab to provide additional comfort to the wearer and maximize compatibility with the SCBA facepiece.

The suspension position in the helmet shell can be adjusted to modify ride height (3 positions), depending on wearer’s head size and shape. The ride height interaction points should be made from a bright yellow material for easy visualization and identification. Three yellow tabs (left, right, rear) shall operate the ride height by pulling them forward and down and lock in place.

The rear nape strap height may be adjusted to optimize tightness and rear comfort (3 positions), on either side on the rear of the suspension system.

The multi-point chin strap shall be adjustable via a friction buckle, with multiple stops to help ensure a proper fit.

COMFORT LINER:
MSA Cairns XR2 shall have a removable comfort liner, consisting of a headband cushion. The liner shall be constructed of one-piece (welded not sewn) components made of polyamide / polyester / elastane base material against the user’s head backed by a soft loop material secured to the suspension system with hook fasteners. The comfort liner shall be removable and washable per the MSA Cairns XR2 Operating Manual (“the Manual”) and/or NFPA 1851, as applicable.

CHINSTRAP:
The chinstrap shall be constructed of 3-4 points chinstrap 0.6” (16 mm) wide fire-retardant, modacrylic and polyester blend strap, without loose ends, height and depth adjustments, and quick release buckle durable thermoplastic quick-release buckle. The multi-point chin strap shall incorporate a retention slider to secure excess running end material after a proper fit is established and include friction buckles for adjusting the straps comfortably along the back of the wearer’s head. The chinstrap shall be attached to suspension system by locking clips that can be installed and removed without the use of tools. The mechanism allows both for proper retention (per the Standards) as well as easy removal for cleaning (per the Manual) or replacement, as applicable.

RETRO-REFLECTIVE TRIM:
MSA Cairns XR2 Technical Rescue Helmets shall have three (3) pieces of retroreflective trim around the exterior crown of the helmet shell for maximum visibility. Retroreflective trim options in colors and texture will include Grey (Textile), Yellow (Textile), Red (Textile), Blue (Vinyl), Green (Vinyl),Grey / Silver (Microprism),Yellow (Microprism), Red (Microprism), Blue (Microprism), and Green (Microprism) trim shall be available.

EYE and FACE PROTECTION:
Each Cairns XR2 Technical Rescue Helmet NFPA-compliant ensemble offers optional eye and face protection.

XR2 Optional Accessories	
Ocular Visor	The MSA Cairns XR2 Technical Rescue Helmets’s optional ocular visor is compliant to ANSI/ISEA Z87.1 (current edition), and fully integrated into the helmet shell and easily deployed with a gloved hand. This visor shall feature a patented pivot adjustment system that allows the visor to articulate to and away from the face, helping to provide gap-free protection even when the user is wearing corrective lenses. This visor must be replaceable without the use of tools and can be added to any existing Cairns XR2 Technical Rescue Helmet currently in service.
Responder Goggles	The MSA Cairns XR2 Technical Rescue Helmets’s optional goggle system shall be compliant with the impact requirements of the current editions of ANSI/ISEA Z87.1 An optional nylon goggle sleeve cover will be available to provide dust and scratch resistance while stowed. The Goggle System shall be comprised of a impact-resistant goggle lens and frame, fire retardant elastic goggle straps, with tension adjustment through straps, goggle retention clip system, and a magnetic strap adjustment system. This retention system will lock the goggle directly into the helmet shell with two clips at the end of the goggle straps, at the rear left and right side, 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. The lens will be low profile, optically correct with a nominal dust-resistant design thickness of 1/16”.

Integrated LED Headlamp Module	The Integrated LED headlamp module shall compose of one front lighting module, with 2 beams (proximity and spot), and a battery pack module on the rear which are linked together with a quick connect, locking cable. The front headlamp module replaces the front plate and snaps into the helmet shell. The rear battery pack module connects into the rear of the helmet and replaces the rear plate without the use of tools. The rear battery pack module is composed of the ON/OFF push-button, the tail light switch, the tail light ("buddy-light") and the battery tray. The rear taillight "buddy-light" shall include the toggle option between Red, Green, or Blue lighting. The module will be powered by three (3) Alkaline/Lithium disposable or rechargeable batteries (Ni-MH). The tail light switch will activate the "SOS" mode that flashes front and rear lights to signal a distress.
Water Rescue Lateral Protection Panels	MSA Cairns XR2 Technical Rescue Helmet provides optional water rescue side panel covers for water rescue applications. The panels shall be left and right with a modular design to easily attach into the accessory rail of the helmet shell without the need for tools to install or remove. Lateral protection panels are to extend area of coverage according to EN 1385 requirements, APPROVALS EN 1385:2012 – Water Sport Helmets, and PAS028-2002 – Marine Safety Helmets, section 6: performances Compliant on both non-motorized and motorized rescue crafts.
Neck Curtain	MSA Cairns XR2 Technical Rescue Helmet provides optional neck protection with a 8.5" (216 mm) wide, 24" (610 mm) long, (NEED SIZE) half-cut earlap (not including installation clips). The neck curtain consists of Dark Blue colored Aramid Material and secured via three (3) tabs located along the top of the ear lap. These tabs shall be inserted into corresponding slots molded into the suspension system to ensure a secure connection. The neck curtain shall be washable (per the Manual) and shall be removable without interfering with the overhead strap assembly in any way and without removing any part of the helmet suspension.

MAINTENANCE, REPAIR and RETIREMENT:
Proper maintenance, repair, and retirement of the helmet can be found in the Manual on our website (MSAfire.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.