

## **Technical Specification**

July, 2020

# Radiant Heat Accessories for Select M-Series Headgear

### Description

The 3M<sup>™</sup> Versaflo<sup>™</sup> Radiant Heat Covers, M-973N and M-975N are designed to be used in conjunction with certain 3M<sup>™</sup> Versaflo<sup>™</sup> M-Series Headgear to provide additional protection against radiant heat and flame.

The 3M<sup>™</sup> Versaflo<sup>™</sup> Gold Coated Tinted Over-Visor, M-967N and 3M<sup>™</sup> Versaflo<sup>™</sup> Over-Visor Frame, M-961N are designed to be used in conjunction with the M-307 and M-407 Headgear, either independently or in addition to the appropriate radiant heat cover, to help provide additional protection against eye and face hazards.



Part	<b>М-975N</b>	M-973N	BT-927N	M-961N	M-967N
Description	3M™ Versaflo™ Radiant Heat Cover for M-407 Respiratory Helmet	3M™ Versaflo™ Radiant Heat Cover for M-307 Respiratory Helmet	3M™ Versaflo™ Breathing Tube Radiant Heat Cover	3M™ Versaflo™ Over-visor Frame	3M <sup>™</sup> Versaflo <sup>™</sup> Gold Coated Tinted Over-Visor with UV/ IR Protection
Material	Pre-oxidized Aramid Aluminum coating on c	outer surface	Aluminum	Gold coated tinted polycarbonate	
Shelf Life	3 year suggested shelf accordance with tempe	life when stored in origin erature guidance.*	The recommended maximum shelf life of the product is 4 years from the date of manufacture.		

\* User must inspect cover prior to use to determine serviceability.

Do not store these products in direct sunlight or at high temperatures. When not in use, store in a cool, dark location to prevent the material from aging. Recommended storage temperature is -22 °F to 122 °F (-30 °C to 50 °C), <90% humidity.

## **Regulatory Considerations**

#### Over-Visor

The Over-Visor meets and is marked to the following ANSI Z87+ impact and other requirements: W5 U6 L5 R10.

In addition, the Over-Visor meets and is marked to the following European requirements:

Model	European Standard	Scale Number	Optical Class	Symbol	Field of Use	Mechanical
M-961N Over-Visor Frame	EN166:2001	_		BT	High speed particles	Medium energy impact at extremes of temperature
				9	Molten metal splash	
M-967N Gold Coated Tinted Over-Visor	EN166:2001		1	BT	High speed particles	Medium energy impact at extremes of temperature
				9	Molten metal splash	
	EN170:2002	4-5				
	EN171:2002	4-5				

#### Fabric

The radiant heat cover is marked in accordance with EN ISO 11612:2015, protective clothing against heat and flame.

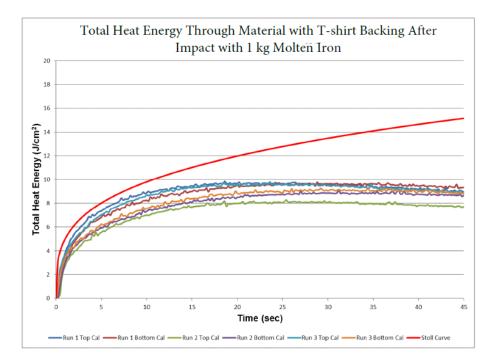
EN ISO 11612 Code Letter and Classification	Heat transmission performance requirement
A1	Limited Flame Spread
B1	Convective Heat
C3	Radiant Heat
D3	Molten Aluminum Splash
E3	Molten Iron Splash

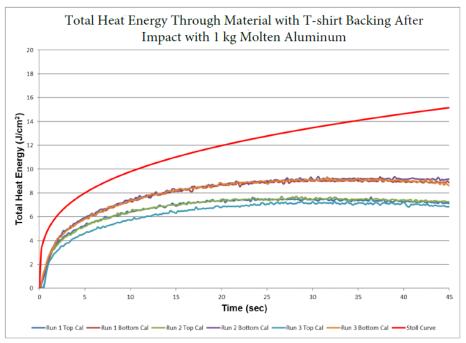
The fabric used in the radiant heat cover has also been tested to ASTM F955-15, Evaluating Heat Transfer through Materials for Protective Clothing upon Contact with Molten Substances.

ASTM F955-15				
Aluminum Splash	Iron Splash			
No burn	No burn			

# ASTM F955-15 "Evaluating Heat Transfer through Materials for Protective Clothing upon Contact with Molten Substances"

The purpose of this test method is to determine the response of the aluminized fabric to controlled impact by molten iron and molten aluminum. The standardized test conditions for molten iron impact evaluations consist of pouring approximately 1 kg (2.2lbs) of molten iron at a minimum temperature of 2800 °F onto fabric samples, with the temperature of the metal (heat transfer) evaluated over time (45 seconds) and the appearance of the fabric evaluated at the end of the test period. The standardized test conditions for molten aluminum are similar, the difference being the minimum temperature of 1400 °F. The results of the testing show that the stoll curve was not crossed, which indicates no onset of second degree burn with either metal under the prescribed test conditions.





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