WATERPROOF Cryo-Gloves®

Hand Protection When Working with Liquid Nitrogen

™ MADE IN MAINE, USA

A portion of our PINK Product Sales goes to cancer research and support services.™

GLOVE LENGTH	WRIST	MID-ARM	ELBOW	SHOULDER
	11"-13" (280-330mm)	13¼"-15½" (335-395mm)	17¼"-19¾" (440-500mm)	24½"-27¼" (620-695mm)
GLOVE SIZE				
Small/8	Blue ● WRSWP Pink ● P-WRSWP	Blue ● MASWP Pink ● P-MASWP	Blue ● EBSWP Pink ● P-EBSWP	Blue ● SHSWP Pink ● P-SHSWP
Medium/9	Blue ● WRMWP Pink ● P-WRMWP	Blue ● MAMWP Pink ● P-MAMWP	Blue ● EBMWP Pink ● P-EBMWP	Blue ● SHMWP Pink ● P-SHMWP
Large/10	Blue ● WRLWP Pink ● P-WRLWP	Blue ● MALWP Pink ● P-MALWP	Blue ● EBLWP Pink ● P-EBLWP	Blue ● SHLWP Pink ● P-SHLWP
X-Large/11	Blue ● WRXLWP Pink ● P-WRXLWP	Blue ● MAXLWP Pink ● P-MAXLWP	Blue ● EBXLWP Pink ● P-EBXLWP	Blue ● SHXLWP Pink ● P-SHXLWP
XX-Large/12	Blue ● WRXXLWP	Blue ● MAXXLWP	Blue ● EBXXLWP	Blue ● SHXXLWP

Features

- A thin, seamless 100% waterproof liner provides protection from spills and splashes
- Gloves are designed to provide a high level of thermal protection when the exposure to cryogenic fluids might exist
- Cryogenic protection for ultra-cold applications down to -196°C (-320°F)
- State-of-the art materials and a multi-layered construction allow for a maximum level of thermal protection, flexibility, and dexterity which are essential features when function is important and safety is critical
- High performance, thermal inner lining wicks moisture away from hands, maintaining comfort over extended periods
- Safety certified to meet EU standards: EN 511, EN 388, EN 420
- **Applications:** dispensing/transferring cryogenic liquids, removing samples from cryogenic liquids, around any open cryogenic containers with the chance of exposure to liquids or splashes

EN 511 EN 388 EN 420 CE Cat. III

CAUTION Not for immersion in liquid cryogens

Tempshield

P.O. Box 199 Mt. Desert, ME 04660 USA www.tempshield.com

Notice of Use: **Waterproof Cryo-Gloves®**

Issue Date: 05/24/2021

Statement of Use : Waterproof Cryo-Gloves® are multi-layer protective cryogenic gloves designed to provide a high level of protection to the hands and arms from extremely cold temperatures, in cold atmospheres, from transmission of cold through direct contact with cold objects, and from splashes and contact with cold liquids. The gloves are intended for use in a variety of applications and under a wide range of conditions where durability and waterproofness are required in a cryogenic glove.

- Gloves should be loose-fitting for maximum performance and for rapid removal in hazardous environments.
- Emergency removal is accomplished by a hard downward shake of the affected hand and arm.
- Proper fit contributes to product performance - a tight fit leads to thermal loss.
- Select an appropriate glove length for your application.
- Periodically inspect the condition of your gloves - replace gloves that are punctured, damaged or that show excessive wear.

Limits of Use: The maximum duration of exposure at ultra cold temperatures is dependent on many variables, including atmospheric conditions, the task being performed and the user's physiology. The thermal flux transmitted through the glove is sufficiently low to allow the user adequate time to safely remove themselves from the hazard.

Warning:

- Not for immersion in liquid cryogens.
- Not for protection against heat. Do not use near open flames or ignition sources.
- Do not wear when there is a risk of entanglement in moving parts of a machine.

Care instructions: Store in a clean dry space. Do not store underneath heavy objects that could compress the insulation. Do not machine wash or dry.*

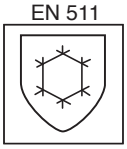
* Waterproof Cryo-Gloves® were not submitted for CE wash testing.

Disinfection: Waterproof Cryo-Gloves® should not sterilized by autoclave to maintain their full cold protective capabilities.

Packaging: Waterproof Cryo-Gloves® are packaged in pairs in poly bags.
For shipping: Individually packaged pairs of gloves shall be additionally packaged in a suitable packing carton constructed to meet all applicable freight requirements.

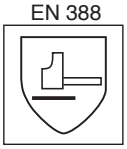
Waterproof Cryo-Gloves® satisfy all the basic health and safety requirements of the PPE Regulation (EU) 2016/425. They are ergonomically designed, absent of risks and nuisance factors, contain no materials known to cause allergies or health hazards, and are comfortable to wear for extended periods.

EN 511



Convective Cold	1*
Contact Cold	1*
Water Impermeability	1

EN 388



Abrasion Resistance	1*
Cut Resistance (Coup)	2
Tear Resistance	2
Puncture Resistance	3
Cut Resistance (TDM)	X
Impact Resistance	X

Performance: EN 511:2006	Level	Performance: EN 420:2003 + A1:2009	Level	Performance: EN 388:2016 + A1: 2018 ‡	Level	Performance: MR 019 Liquid Nitrogen Immersion
Convective Cold	4* / 4 **	pH	Pass	Abrasion Resistance	1* / 4 **	Average time for internal glove temperature to drop from 35°C to 5°C = 71.5 seconds .... PASS
Contact Cold	2* / 4 **	Sizing	8-9-10-11-12 †	Cut Resistance (Coup test)	2 / 5 **	
Water Impermeability	1 / 1 **	Dexterity	2 / 5 **	Tear Resistance	2 / 4 **	
Flexibility Behavior	Pass	† Sizing conforms to an expert decision.		Puncture Resistance	3 / 4 **	
Extreme Cold Flexibility	Pass			Cut Resistance (TDM test)	X	
				Impact Resistance	X	

*Testing supports a Convective Cold level of 4 and Contact Cold level of 2, but the Abrasion Resistance level of 1 allows reporting of Cold levels of 1 only.

** The highest numbers (__/__) correspond to the highest levels that can be achieved according to the test methods.

‡ The actual levels achieved for EN 388 tests (first number) do not necessarily reflect the performance of the outermost layer.

Waterproof Cryo-Gloves Available sizes and styles:

Model	Size: U.S.	EN 420	Model	Size: U.S.	EN 420	Model	Size: U.S.	EN 420	Model	Size: U.S.	EN 420
Wrist Length			**Mid-Arm Length**			**Elbow Length**			**Shoulder Length**		
WRSWP	S	8	MASWP	S	8	EBSWP	S	8	SHSWP	S	8
WRMWP	M	9	MAMWP	M	9	EBMWP	M	9	SHMWP	M	9
WRLWP	L	10	MALWP	L	10	EBLWP	L	10	SHLWP	L	10
WRXLWP	XL	11	MAXLWP	XL	11	EBXLWP	XL	11	SHXLWP	XL	11
WRXXLWP	XXL	12	MAXXLWP	XXL	12	EBXXLWP	XXL	12	SHXXLWP	XXL	12

Retain this document for your records. Additional copies can be obtained from our Customer Service Department at info@tempshield.com.
Copies of the EU Declaration of Conformity may be obtained at the following web address: https://tempshield.com/pages/eu-declaration-of-conformity.

CE EU Type Examination was conducted by ASOCIACION DE INVESTIGACION DE LA INDUSTRIA TEXTIL
Plaza Emilio Sala, 1 E-03801 ALCOY (ALICANTE) Spain, Notified Body # 0161.

CE The gloves are subject to the conformity assessment procedure Module D under surveillance of Shirley®,
Port Tunnel Business Park, Office 13 Unit 21, Dublin 17, ROI, Notified Body # 2895.

EU DECLARATION OF CONFORMITY

We, Tempshield LLC, PO Box 199, Mount Desert, Maine 04660 USA, tel: +1 207-667-9696, and www.tempshield.com, as manufacturer, declare that the Category III PPE described hereafter:

Cryo-Gloves®, Waterproof Cryo-Gloves®, Waterproof Cryo-Grip® Gloves, and Cryo-Industrial® Gloves: are in conformity with Regulation (EU) 2016/425 and, where such is the case, with the harmonized standard numbers and additional testing relevant to cryogenic gloves:

EN 420 : 2003 + A1 : 2009 General requirements and test methods
EN 511 : 2006 Protective gloves against cold
EN 388 : 2016 Protective gloves against mechanical risks
MR 019 : Measurement of Thermal Behavior of Gloves when Immersed in Liquid Nitrogen

and are identical to the PPE which are the subject of the EU type Examination Certificates with numbers:

Cryo-Gloves®

WR+Size	19/1102/00/0161 Rev. 2
MA+Size	19/1102/00/0161 Rev. 2
EB+Size	19/1102/00/0161 Rev. 2
SH+Size	19/1102/00/0161 Rev. 2

Waterproof Cryo-Gloves®

WR+Size+WP	19/1105/00/0161 Rev. 4
MA+Size+WP	19/1105/00/0161 Rev. 4
EB+Size+WP	19/1105/00/0161 Rev. 4
SH+Size+WP	19/1105/00/0161 Rev. 4

and Cryo-Industrial® Gloves

CIG+Size+WP	19/1104/00/0161 Rev. 2
CIW+Size+WP	19/1104/00/0161 Rev. 2
CIM+Size+WP	19/1104/00/0161 Rev. 2

issued by: ASOCIACIÓN DE INVESTIGACIÓN DE LA INDUSTRIA TEXTIL (AITEX)
Plaza Emilio Sala, 1
ALCOY (ALICANTE) Spain Notified Body # 0161

Waterproof Cryo-Grip® Gloves

CG+WR+Size+WP	0072/440/162/11/18/0214
CG+MA+Size+WP	0072/440/162/11/18/0215
CG+EB+Size+WP	0072/440/162/11/18/0216
CG+SH+Size+WP	0072/440/162/11/18/0217

issued by: INSTITUT FRANÇAIS TEXTILE - HABILLEMENT
Avenue Guy de Collongue
69134 ECULLY CEDEX France Notified Body # 0072

Cryo-LNG™ Gloves: are in conformity with Regulation (EU) 2016/425 and, where such is the case, with the harmonized standard numbers relevant to cryogenic gloves:

EN ISO 21420:2020 Protective Gloves: General requirements and test methods
EN 511 : 2006 Protective gloves against cold
EN 388 : 2016 + A1 : 2018 Protective gloves against mechanical risks

and are identical to the PPE which are the subject of the EU type Examination Certificates with numbers:

Cryo-LNG™ Gloves

CLM+Size+WP	21/4394/00/0161
CLE+Size+WP	21/4394/00/0161

issued by: ASOCIACIÓN DE INVESTIGACIÓN DE LA INDUSTRIA TEXTIL (AITEX)
Plaza Emilio Sala, 1
ALCOY (ALICANTE) Spain Notified Body # 0161

Cryo-Apron® and Cryo-Industrial® Aprons: are in conformity with Regulation (EU) 2016/425 and, where such is the case, with technical specification numbers:

EN ISO 13688 : 2013 Protective clothing - general requirements
EN 20811 : 1993 Textiles - resistance to water penetration
EN 388 : 2016 + A1 : 2018, point 6.1 - Abrasion resistance
EN 388 : 2016 + A1 : 2018, point 6.4 - Tear resistance
EN ISO 7854 : 1997 - Determination of resistance to damage by flexing
EN ISO 2286-3 : 1998 and ISO 4675 : 1990 - Low temperature bend test
ISO 5085-1 : 1989 - Determination of thermal resistance - low temperature resistance

and are identical to the PPE which are the subject of the EU type Examination Certificates with numbers:

Cryo-Apron®

CA+Size	19/1085/00/0161 Rev. 1

Cryo-Industrial® Apron

CI-A+Size	19/1090/00/0161 Rev. 2

issued by: ASOCIACIÓN DE INVESTIGACIÓN DE LA INDUSTRIA TEXTIL (AITEX)
Plaza Emilio Sala, 1
E-03801 ALCOY (ALICANTE) Spain Notified Body # 0161

Cryo-Gaiters™ and Cryo-Industrial® Gaiters: are in conformity with Regulation (EU) 2016/425 and, where such is the case, with technical specification numbers:

EN ISO 13688 : 2013 Protective clothing - general requirements
EN 20811 : 1993 Textiles - resistance to water penetration
EN 388 : 2016 + A1 : 2018, point 6.1 - Abrasion resistance
EN 388 : 2016, + A1 : 2018 point 6.4 - Tear resistance
EN 388 : 2016 + A1 : 2018, point 6.5 - Puncture resistance
EN ISO 7854 : 1997 - Determination of resistance to damage by flexing
EN ISO 2286-3 : 1998 and ISO 4675 : 1990 - Low temperature bend test
ISO 5085-1 : 1989 - Determination of thermal resistance - low temperature resistance

and are identical to the PPE which are the subject of the EU type Examination Certificates with numbers:

Cryo-Gaiters™

CPGR	19/1666/00/0161

Cryo-Industrial® Gaiters

CPIGR	19/1695/00/0161

issued by: ASOCIACIÓN DE INVESTIGACIÓN DE LA INDUSTRIA TEXTIL (AITEX)
Plaza Emilio Sala, 1
E-03801 ALCOY (ALICANTE) Spain Notified Body # 0161

(The Technical Construction Files are maintained at Tempshield LLC, PO Box 199, Mount Desert, Maine 04660 USA.)

The Category III PPE are subject to the conformity assessment procedure conformity to type based on quality assurance of the production process (Module D) of Regulation (EU) 2016/425, with certificate # 54152. This is under the surveillance of Notified Body:

BTTG / Shirley®
Port Tunnel Business Park, Office 13 Unit
21 Dublin 17, ROI Notified Body # 2895

Signed for and on behalf of Tempshield LLC at Mt. Desert, ME, on 06 October, 2021.

Paul R Larochelle
Chief Operating Officer