



## Frosters Cryogenic Gloves & Gauntlets For Ultra-Cold

- For use with materials stored with liquid nitrogen and in other very cold environments
- Widely used in the oil and gas industry for protection against spills and splashes of ultra-cold / cryogenic materials including Liquid Nitrogen & LNG
- Used in the development of the AstraZeneca vaccine and for the handling of the Pfizer/BioNTech vaccine in the fight against Covid
- Superb insulation needs less thickness giving more dexterity
- Water resistant with a synthetic fibre outer for flexibility
- Four hand sizes and four lengths, all extending over wrist

Scilabub's Frosters Cryogenic Gloves have been specially developed for the handling of very cold objects. Typically they are used for handling objects stored in the vapour phase of liquid nitrogen (ranging from  $-120^{\circ}\text{C}$  to  $-190^{\circ}\text{C}$ ). At actual liquid nitrogen temperature there is some stiffening of the material, but it still remains flexible enough for use. The gloves should not be immersed in liquid nitrogen. They are also very useful for other cold situations such as with freezers, cold rooms, 'dry ice' and microtomes.



Frosters are long gloves which extend well over the wrist and are cut so that fingers and thumbs retain a high degree of movement. The outer layer, of royal blue, woven polyamide, has a waterproof coating to resist condensed water on cold surfaces. Yet it remains permeable to water vapour so that there is no clammy condensation inside. However, it should be noted that the stitch holes are not sealed (to reduce bulk around the fingers) and, whilst this could allow liquid ingress, it has not been found a problem in normal use.

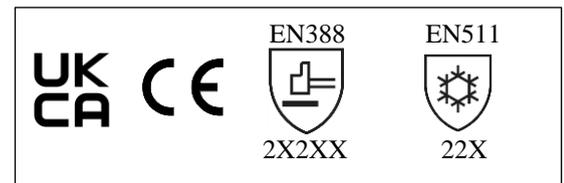
The insulation layer is of special polyolefin/polyester micro-fibre, which is almost twice as effective in thermal insulation as a similar thickness of down. This minimises heat transfer without being so thick as to be cumbersome. The inner layer is of breathable cotton for comfortable wear.

Frosters are available in a choice of four hand sizes: small (8) medium (9), large (10) and extra-large (11) and in four lengths: wrist (30cm), mid-arm (37cm), elbow (50cm) and shoulder (60cm). Each glove has a hanging loop inside the cuff, so that they may be hung in a convenient place, away from pools of condensation, when not in use.

Gloves are made to in accordance to EN ISO 21420:2020 and have been tested to EN388 and EN511. They meet the criteria for CE and UKCA marking (in accordance with EU REGULATION: 2016/425). Further information can be found within the technical digest.

The gloves are Category III which means that they protect against risks that may cause very serious consequences such as death or irreversible damage to health.

Although Frosters have superb insulation, they are unsuitable for use at high temperatures. However, Scilabub has a complementary range of heat resistant Nomex® IIIA Gloves & Gauntlets available.



Size	Wrist (30cm)	Mid Arm (37cm)	Elbow (50cm)	Shoulder (60cm)
Small - 8	GLO/CMS/KW	GLO/CMS	GLO/CMES	GLO/CMS/EX
Medium - 9	GLO/CMM/KW	GLO/CMM	GLO/CMEM	GLO/CMM/EX
Large - 10	GLO/CML/KW	GLO/CML	GLO/CMEL	GLO/CML/EX
Extra Large - 11	GLO/CMXL/KW	GLO/CMXL	GLO/CMEXL	GLO/CMXL/EX



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