

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Surface materials and floor coverings with low flame-spread characteristics: pipe insulation covers

with type designation(s)
Cryogel Z

Issued to
**Aspen Aerogels
Northborough, MA, USA**

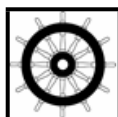
is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2019/1397**,
item No. MED/3.18d. SOLAS 74, Reg. II-2/3, II-2/5 & X/3, IMO MSC/Circ. 1120, 2000 HSC Code 7 and IMO 2010 FTP Code

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2024-12-04**.

Issued at **Høvik** on **2019-12-05**

DNV GL local station:
**Certification & Inspection
Services**



for **DNV GL AS**

Approval Engineer:
Tessa Biever

Notified Body
No.: **0575**

Roald Vårheim
Head of Notified Body



The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Product description

"Cryogel Z"

is a silica based aerogel insulation batting.

Nominal thickness: 5 - 10 mm
Nominal density: 160 kg/m³

Application/Limitation

Approved for use as low flame spread surface material, not generating excessive quantities of smoke nor toxic products in fire.

Approved colour: White
Max. Organic content: 25 %

Any adhesive used, other than the one used during testing, has to be tested for low flame spread characteristics according to IMO 2010 FTP Code part 5 and to be approved according to the Marine Equipment Directive and bear the Mark of Conformity.

The product satisfies the requirement for maximum calorific value (ref. Solas Chapter II-2, Reg 5.3.2.2) without further testing.

The product may be used on cold service pipework / fittings for refrigeration system everywhere onboard, and for pipework, fittings, air ducts and tanks insulation in cargo areas, mail rooms, baggage rooms and refrigerated compartments of service spaces, and exterior locations (SOLAS II-2/5 3.1.1)". (Piping for hot and cold sanitary water cannot be considered "cold service pipe work/fittings".)

Extent of application is to be considered and accepted for each case/project.

Each product is to be supplied with its manual for installation.

Type Examination documentation

Test report No. 101703952SAT-001A, rev. 1, dated 3 October 2014 from Intertek, Texas, US.
Test report No. 101455072SAT-001C, rev. 2, dated 3 October 2014 from Intertek, Texas, US.

Tests carried out

Tested according to IMO 2010 FTP Code part 5 and Annex 2, item 2.2 and 2.3.

Marking of product

The product or packaging is to be marked with name and address of manufacturer, type designation and the MED Mark of Conformity (see first page)