

Notified Body No. 2812

Type-Examination (Module B) Certificate

ERO2812/MED0495TERev.1

This is to certify that:

Element Materials Technology Rotterdam B.V. (ERO) did undertake the relevant type approval procedures for the type of equipment identified below which was found to be in compliance with the requirements of Marine Equipment Directive (MED) 2014/90/EU of 23rd July 2014, subject to any conditions in the schedule attached hereto.

Manufacturer

Name

AFS BORU SANAYI A.S

Address

İvedik Organize Sanayi Bölgesi, 1468. Cadde No:153, Ostim
06370, Ankara, Turkey

Authorised Representative

Name

Authorised Rep Compliance Ltd,

Address

71 Baggot Street Lower, Dublin, D02 P593, Republic of Ireland

Directive reference

Marine Equipment Directive (MED) 2014/90/EU of 23rd July
2014 and Regulation (EU) 2021/1158/EU of 22nd June 2021

Regulation Item

Item No. MED/3.18f, Combustible Ducts

Product Type

"ISOAFS-ALU.F ECOSOFT MARINE"

Product description

Thermally insulated aluminium flexible air duct, as per detail in
Attachment to this certificate

Specified Standard

SOLAS 74, Reg. II-2/3, II-2/5, II-2/9 and X/3, IMO Res
MSC.36(63)-(1994 HSC Code) 7, IMO Res MSC.97(73)-(2000
HSC Code) 7, IMO MSC/Circ.1120, IMO Res. MSC.307(88)-
(2010 FTP Code), as amended

The attached schedule of approval forms part of this certificate.

This certificate remains valid unless suspended, expired or withdrawn, provided the conditions in the attached schedule are complied with.



Pascal Coget
Certification Manager

Date of Issue: 2022-09-05

Expiry date: 2027-09-04

ERO project reference: ERO 034621 P1597

Notes:

- This equipment is covered by the scope of the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment" signed February 27th, 2004 and amended by Decision No.1/2008 dated February 18th, 2019 according to U.S Coast Guard approval category 164.112.
- A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F) as allowed by the MED.
- This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with, the notified body named on this certificate.
- During the period of validity of this certificate the applicable regulations (international conventions and the relevant resolutions and circulars of the IMO) and testing standards of the Commission Implementing Regulation may change, therefore the product conformity may need to be re-assessed by the Notified Body.

Appendix to Type-Examination Certificate

Schedule of Approval

The applicant declared that the following comprises an accurate description of the system type to which this certificate applies:

General description		Thermally insulated aluminium flexible air duct	
Product reference of overall composite		"ISOAFS-ALU.F ECOSOFT MARINE"	
Name of manufacturer of overall composite		AFS BORU SANAYI A.S.	
Thickness of overall composite		25.mm (stated by sponsor)	
Weight per unit area of overall composite		618g/m ² (stated by sponsor)	
Product configuration		<ul style="list-style-type: none"> • Flexible air duct (test face) • Insulation • Jacket 	
Flexible air duct (test face)	General description	Non-insulated aluminium flexible air duct	
	Product reference	"ALUAFS.F MARINE"	
	Name of manufacturer	AFS Boru Sanayi A.S.	
	Thickness	74 micron	
	Weight per unit area	153g/m ²	
	Product configuration	<ul style="list-style-type: none"> • Aluminium • Adhesive • Polyester • Adhesive • Aluminium • Adhesive • Aluminium 	
	Aluminium	Generic type	Aluminium foil
		Product reference	See Note below 1
		Name of manufacturer	See Note below 1
		Thickness	16 microns
		Density	2.72g/cm ³
		Colour reference	"Aluminium"
		Flame retardant details	See Note below 2
	Adhesive	Generic type	See Note below 3
Product reference		See Note below 1	
Name of manufacturer		See Note below 1	
Colour reference		"Transparent"	
Application rate / thickness		See Note below 1	
Application method		See Note below 1	
Flame retardant details		See Note below 2	
Curing process		See Note below 1	
Polyester	Generic type	Polyester film	
	Product reference	See Note below 1	
	Name of manufacturer	See Note below 1	
	Thickness	9 microns	
	Density	1.40g/cm ³	
	Colour reference	"Transparent"	
	Amount of flame retardant	See Note below 2	

Insulation	Generic type	Glass wool insulation	
	Product reference	See Note 4 below	
	Name of manufacturer	Knauf Insulation	
	Colour reference	"Brown"	
	Thickness	25mm	
	Density	16kg/m ³	
	Flame retardant details	See Note 2 below	
Jacket	Polyester	Generic type	Polyester
		Product reference	See Note 1 below
		Name of manufacturer	See Note 1 below
		Thickness	12 microns
		Density	1.40g/cm ³
		Colour reference	"Transparent"
		Flame retardant details	See Note 2 below
	Polyester	Generic type	Polyester
		Product reference	See Note 1 below
		Name of manufacturer	See Note 1 below
		Thickness	12 microns
		Density	1.40g/cm ³
		Colour reference	"Transparent"
		Flame retardant details	See Note 2 below
Aluminium	Generic type	Aluminium foil	
	Product reference	See Note 1 below	
	Name of manufacturer	See Note 1 below	
	Colour reference	Aluminium	
	Thickness	9 microns	
	Density	2.72g/cm ³	
	Flame retardant details	See Note 2 below	
Brief description of manufacturing process		See Note 1 below	

Note 1. - The sponsor was unwilling to provide this information.

Note 2. - The sponsor was unable to provide this information.

Note 3. - The sponsor of the test has provided this information but at the specific request of the sponsor, these details have been omitted from the report and are instead held on the confidential file relating to this investigation.

Note 4 - The sponsor of the test has confirmed that no flame retardant additives were utilised in the production of the product / component.

Type Examination documentation

Test report No.	Date	Product reference	Test method
WF 369728	29th November 2016	ISOAFS-ALU.F ECOSOFT MARINE	IMO Resolution MSC.307(88) (2010 FTP Code) : Annex 1 : Part 5
WF 369722	29th November 2016	ISOAFS-ALU.F ECOSOFT MARINE	IMO Resolution MSC.307(88) (2010 FTP Code) : Annex 1 : Part 5
Smoke and Toxicity is satisfied by meeting the total heat release (Q _t) and peak heat release (Q _p) requirement as stated Paragraph 2.2 of Annex 2 to IMO Resolution MSC 307(88).		ISOAFS-ALU.F ECOSOFT MARINE	IMO Resolution MSC.307(88) (2010 FTP Code) : Annex 1 : Part 2

Production Locations:

Place of production AFS BORU SANAYI A.S, Ivedik Organize Sanayi Bölgesi,
1468. Cadde No:153, Ostim 06370, Ankara, Turkey

Restrictions of use

None.

Marking

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-control phase module (D, E, or F) of the Directive is fully complied with.

