



# Marine Certified Flexible Air Ducts





Air-Conditioning & Ventilation Components & Systems

# afs ile denizleri aşın



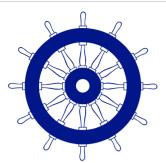
**European Marine Equipment** Directive'e uygun

The dimensions, tolerances, and mechanical resistance of all flexible ducts are tested, classified and certified according to EN 13180.All technical details are for information only. All information and technical data in this leaflet is subject to change without prior notice. Based on these, permissible length tolerance is (-)3% for stated length (measured after fully streched according to EN 13180)

Air-Conditioning & Ventilation Components & Systems

# certified quality





1121/2020

164.112/1121/EWC MED0494

Certified by Warringtonfire according to requirements of the new Marine Equipment Directive (2014/90/EU). The certificate has validity in both Europe (MED) and USA (USCG)



The International Maritime Safety Conventions require the Wheelmark to ensure that the equipment carried on board ships complies with certain safety requirements.

The Wheelmark which is affixed to products in compliance with the Marine Equipment Directive consists of a ships Wheel together with the identification number of the Notified Body and certificate number.

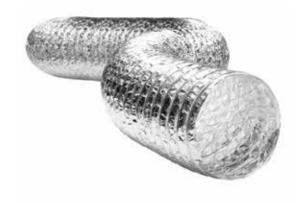
The Marine Equipment Directive 96/98 EN has come into force on January 1st 1999 and covers a range of equipment carried on board ships registered under the flags of the European Union member states. It was established to ensure that, equipment which must comply with the requirements of international conventions (e.g. SOLAS) agreed by the International Maritime Organization also meets common standards of safety and performance across the EU. Approval requirements are also harmonized, which ensures certificates issued in one Member State are accepted by all states across the EU. The Directive applies to all "Community Registered Ships" and is mandatory since January 1, 2001.

Besides being based on the Mutual Recognition Agreement (MRA) between the US and the EU, the certificates of products are both MED&UGC approved, thus the products can also be used for the flag ships of US.

AFS is your partner when it comes to flexible ducting solutions in Marine Applications. All around the World, AFS HVAC product perform excellent level of quality.

Comfortable, environment friendly, user-friendly, safe, healthy indoor air quality can be supported by AFS Marine series on board. The air you breathe helps you live life to the fullest today and tomorrow.

Our Marine certification is secured by 25 years of experience and our outstanding quality in comfort and safety ventilation systems.



# **ALUAFS.F MARINE**

**Duct Construction** 

Nominal Thickness of Inner Duct Diameter Range (Ø)

Wire Spacing

Operating Temperature Range

Air Velocity

Operating Pressure

Standard Length Packing

Reaction to Fire Certificates

- : 3 ply aluminium 1 ply polyester
- : 74 micron
- : 82 800 mm 35 mm (Ø ≥ 127 mm)
- : -30 °C / +250 °C
- : 30 m/s (max)
- : +3000 Pa (max)
- : 10 m
- : Individual cardboard box single cardboard box
- : Limited combustibility
- : M0 (France) [CSTB]







164.112/1121/EWC MED0492

### **PACKING**



# certified quality



# ISOAFS-ALU.F ECOSOFT MARINE

Inner Duct Construction

Nominal Thickness of Inner Duct **Jacket Construction** 

Nominal Thickness of Jacket Insulation - Thickness - Density

Diameter Range (Ø)

Wire Spacing

Operating Temperature Range

Air Velocity

Operating Pressure

Standard Length

Packing

Reaction to Fire

Certificates

: 3 ply aluminium 1 ply polyester

: 74 micron

: 1 ply aluminium 2 ply polyester

: 45 micron

: Glass wool - 25mm - 16 kg/m3

: 82 - 800 mm

: 35 mm (Ø ≥ 127 mm)

: -30 °C / +250 °C

: 30 m/s (max)

: +3000 Pa (max)

: 10 m per single cardboard box

: Difficult to ignite

: M0 + M1 (France) [CSTB]







164.112/1121/EWC MED0495 \*50 mm insulation available





## SONOAFS-ALU.FB ECOSOFT MARINE

Inner Duct Construction

Nominal Thickness of Inner Duct

**Barrier Construction** 

**Barrier Thickness** 

**Outer Jacket Construction** 

Nominal Thickness of Jacket

Insulation - Thickness - Density

Diameter Range (Ø)

Wire Spacing

Operating Temperature Range

Air Velocity

**Operating Pressure** 

Standard Length

Packing

Certificates

3 ply aluminium 1 ply polyester

Perforated

74 micron

1 ply polyethylene

12 Micron

: 1 ply aluminium

2 ply polyester

45 micron

Glass wool - 25mm - 16 kg/m<sup>3</sup>

82 - 800 mm

: 35 mm (Ø ≥ 127 mm)

-30 °C / +150 °C

30 m/s (max)

: +3000 Pa (max)

Single cardboard box

M0 + M1 (France) [CSTB]













# **SLEEVEAFS.B ECOSOFT MARINE**

#### Diameter Range (Ø)

82 - 508 mm

#### **Standard Length**

10 m

#### **Barrier Type**

Polyethylene

#### **Barrier Thickness**

12 micron

#### **Jacket Construction**

1 ply aluminium

2 ply polyester

#### **Jacket Thickness**

45 micron

#### **Operating Temperature Range**

-30 °C / +90 °C

#### **Insulation Material**

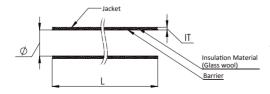
**ECOSOFT Glass wool** 

#### **Thickness**

25 mm

#### **Density**

16 kg/m<sup>3</sup>





# SLEEVEAFS.B ECOSOFT MARINE (50 mm insulated)

#### Diameter Range (Ø)

82 - 508 mm

#### **Standard Length**

10 m

#### **Barrier Type**

Polyethylene

#### **Barrier Thickness**

12 micron

#### **Jacket Construction**

1 ply aluminium

2 ply polyester

#### **Jacket Thickness**

45 micron

#### **Operating Temperature Range**

-30 °C / +90 °C

#### **Insulation Material**

**ECOSOFT Glass wool** 

#### **Thickness**

50 mm

#### **Density**

16 kg/m<sup>3</sup>









164.112/1121/EWC MED0493

## certified quality





#### **SEMIAFS**

Duct Construction Nominal Thickness of Duct

Diameter Range (Ø)

Operating Temperature Range

Air Velocity

**Operating Pressure** 

Standard Length

Compression Ratio

Packing

Reaction to Fire

Certificates

: Corrugated aluminium continous interlock system

90 micron

: 80-800 mm

-25 °C / + 250 °C

: 25 m/s (max)

+5000 pa (max)

: 1,5 m / 3,0 m / 6,0 m

: 1/3

Single nylon package / Bulk packing

Non-combustibility

: Class A1 (EN 13501-1)

Flame Spread IndeX:0 [UL 723 as per UL 181] Smoke Developed Index:0 [UL 723 as per UL 181]

Letter / MED Approval without testing



#### **SEMIAFS.C**



Nominal Thickness of Duct

Diameter Range (Ø)

Operating Temperature Range

Air Velocity

**Operating Pressure** 

Standard Length

Compression Ratio

Packing

Reaction to Fire

Certificates

: Corrugated aluminium continous interlock system

90 micron

: 80-500 mm

-25 °C / + 250 °C

: 25 m/s (max)

: +5000 pa (max)

: 1,5 m/3,0 m/6,0 m

: 1/3

: Single nylon package / Bulk packing

Non-combustibility

Class A1 (EN 13501-1)

Letter / MED Approval without testing







Duct Construction

Nominal Thickness of Duct

Diameter Range (Ø)

Operating Temperature Range

Air Velocity

**Operating Pressure** 

Standard Length

Compression Ratio

Packing

Reaction to Fire

Certificates

Corrugated 316 L stainless steel continous interlock system

100 micron

80-800 mm

- 30 °C / + 500 °C

25 m/s (max)

: +12000 pa (max)

: 1,0 m / 1,5 m / 2,0 m / 2,5 m / 3,0 m / 5,0 m

Can not be compressed

Single nylon package

Non-combustible

: Class A1 (EN 13501-1)

Letter / MED Approval without testing





Class A1



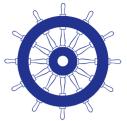
Air-Conditioning & Ventilation Components & Systems

Μιχαήλ Καραολή 19, τκ 143 43, Ν. Χαλκηδόνα, Αθήνα Τηλ: 211 - 70.55.500 & 210 - 21.30.051, Fax: 210 - 22.23.283



\*Information on the emission level of volatile substances into indoor air, presenting a risk of toxicity by inhalation, on a scale ranging from A+ (very low emissions) to C (high emissions)





# Marine Flexible Air Ducts





ivedik OSB 1468. Cad. No: 153 06370 Yenimahalle ANKARA/TÜRKİYE T: +90 312 395 48 60 F: +90 312 395 48 68

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