



**POTVRDA O TIPNOM ODOBRENJU**  
**TYPE APPROVAL CERTIFICATE**

Br /No 01-012789/019359

Potvrđuje se da je ovaj proizvod, u skladu s Pravilima za klasifikaciju brodova, Dio 1. - Opći propisi, Odjeljak 3. - Tipno odobrenje proizvoda, odobren za ugradnju na brodove i postrojenja pod nadzorom Hrvatskog registra brodova.

*This is to certify that this product, on the basis of the Rules for the classification of ships, Part 1 - General requirements, Chapter 3 - Type approval of products, is approved for use on board ships and installations under supervision of the Croatian Register of Shipping.*

**TIP I OPIS PROIZVODA:**

*TYPE AND DESCRIPTION OF PRODUCT:*

**FirePro® FIKSNI SUSTAV ZA GAŠENJE POŽARA AEROSOLOM  
 GENERATORI AEROSOLA tip FP40S, FP80S, FP100S, FP200S, FP500S, FP1200, FP2000,  
 FP3000, FP5700, FP1200S, FP2000S, FP3000S i FP5700S**

*FirePro® AEROSOL FIXED FIRE EXTINGUISHING SYSTEM  
 AEROSOL GENERATORS type FP40S, FP80S, FP100S, FP200S, FP500S, FP1200, FP2000, FP3000,  
 FP5700, FP1200S, FP2000S, FP3000S and FP5700S*

**PROIZVOĐAČ:**

*MANUFACTURER:*

**FirePro Systems Limited**  
 6 Koumandarias & Spyrou Araouzou Street  
 Tonia Court No.2, 6<sup>th</sup> Floor  
 3036 Limassol  
 CYPRUS

**PROIZVOD UDOVOLJAVA SLIJEDEĆIM PRAVILIMA/PROPISIMA:**

*THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:*

**Pravila za klasifikaciju brodova, Dio 17 – Protupožarna zaštita; Pravila za statutarnu certifikaciju putničkih brodova u nacionalnoj plovidbi; Pravila za tehnički nadzor brodova od drva, aluminijskih slitina i plastičnih materijala; Pravila za statutarnu certifikaciju ribarskih brodova; Pravila za statutarnu certifikaciju brodice i jahti; IMO MSC.1/Circ.1270 uključujući Corr.1.**

*Rules for the Classification of Ships, Part 17 – Fire protection; Rules for the Statutory Certification of Passenger Ships Navigating in National Waters; Rules for the Technical Supervision of Ships with Wooden, Aluminium Alloy or Glass Reinforced Plastic Hull; Rules for the Statutory Certification of Fishing Vessels; Rules for the Statutory Certification of Boats and Yachts; IMO MSC.1/Circ.1270 incl. Corr1.*

**DETALJI O PROIZVODU I UVJETIMA CERTIFIKACIJE DANI SU NA POLEĐINI.**

*FURTHER DETAILS OF THE PRODUCT AND CONDITIONS FOR CERTIFICATION ARE GIVEN OVERLEAF.*

**ODOBRENJE VRIJEDI DO:** 2022-04-18

*APPROVAL IS VALID UNTIL:*

**Mjesto i datum:** Split, 2018-05-16

*Place and date:*

**M.P.**

*(Seal)*

**Marinko Popović, dipl.ing.**

**NAPOMENA:** Ova potvrda nije valjana ako se proizvod ili način njegove proizvodnje promijenio u odnosu na tipno ispitani proizvod. Proizvođač treba obavijestiti Hrvatski registar brodova o bilo kojoj izmjeni na proizvodu kako bi ishodio valjanu potvrdu.

*NOTE: This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Croatian Register of Shipping of any modification or changes to the product in order to obtain a valid certificate.*

**PODROBNIJI OPIS PROIZVODA:**  
**DETAILED PRODUCT DESCRIPTION:**

Generatori aerosola sastoje se od čeličnog ili prokronskog (modeli s oznakom S) kućišta, upaljača, krute tvari za gašenje požara, odjeljka za kemijsku reakciju promjene krute tvari u aerosol i hladila. Upaljač se može aktivirati ručno ili automatski (termičkom ili električnom aktivacijom). Smjesa za gašenje požara je kemijska tvar koja ne sadrži otrovne komponente.

Masa krute tvari za gašenje požara u pojedinom generatoru ovisi o modelu generatora (broj u oznaci označava masu krute tvari, npr. modeli FP5700 i FP5700S imaju 5700 g krute tvari za gašenje).

*Aerosol generators consists of steel or stainless steel (models with „S“ mark) sheet housing, ignition device, fire extinguishing solid composition, reaction compartment and cooling unit. The ignition device can be triggered manually or automatically (by thermocord or by electrical activation.) The fire extinguishing composition is a chemical compound containing non toxic components.*

*Mass of of extinguishing agent in each generator depends on model (marking number indicate quantity of extinguishing agent, for example models FP5700 and FP5700S have 5700 g mass of extinguishing agent).*

**PODRUČJE PRIMJENE / POSEBNI GRANIČNI UVJETI:**

**APPLICATION / LIMITATIONS:**

1. Gašenje požara u prostorijama strojeva u kojima osoblje uobičajeno ne boravi, volumena manjeg od 500 m<sup>3</sup> i visine između paluba manje od 5 metra, na brodovima, jahtama i brodicama.

2. Masa tvari za gašenje požara

$W = (V \times q) / f$  gdje je:

W = masa tvari za gašenje požara (g)

V = volumen šticenog prostora (neto volumen u m<sup>3</sup>)

Q = projektna gustoća= 120 g/m<sup>3</sup>

f = faktor iskoristivosti pojedinog generatora, vidi Tablicu 1.

3. Smještaj generatora aerosola:

- jednoliko raspoređeni unutar šticenog prostora;

- minimalne udaljenosti generatora od puteva bijega/osoba i gorivih materijala moraju biti u skladu s Tablicom 1.

4. Automatsko uključivanje sustava nije dopušteno na brodovima koji podliježu odredbama SOLAS-a.

Za brodove u nacionalnoj plovidbi automatsko uključivanje je predmet odobrenja HRB-a za svaki pojedinačni slučaj.

*1. Fire extinguishing in normally unoccupied machinery spaces with volume less than 500 m<sup>3</sup> and deck height less than 5 metres on ships, yachts and boats.*

*2. Quantity of fire extinguishing agent*

*$W=(V \times q) / f$  where:*

*W = fire extinguishing agent mass (g)*

*V = volume of enclosure to be protected (net volume in m<sup>3</sup>)*

*Q = design density = 120 g/m<sup>3</sup>*

*f = efficiency coefficient of the individual generator's, see Table 1.*

*3. Location of the aerosol generators:*

*- evenly distributed within the protected space;*

*- minimum distance between generators and escape route/persons and combustible materials as specified in Table 1.*

*4. Automatic release of the system is not allowed onboard ships subject to SOLAS.*

*For ships navigating in national waters automatic release is subject to the approval of the CRS in each particular case.*

**Tablica 1 /Table 1.**

Model	Faktor iskoristivosti generatora / Efficiency coefficient of generator's	L2 (m)	L3 (m)
FP 40S	61 %	0	0,1
FP 80S	59 %	0	0,1
FP 100S	61 %	0	0,1
FP 200S	59 %	0,1	0,3
FP 500S	66 %	0,2	0,5
FP 1200 and FP 1200S	63 %	0,2	1,2
FP 2000 and FP 2000S	60 %	0,2	1,2
FP 3000 and FP 3000S	61 %	0,7	1,7
FP 5700 and FP 5700S	59 %	0,8	1,8

L2 = minimalna udaljenost između generatora i gorivih materijala / minimum distance between generators and combustible materials

L3 = minimalna udaljenost između generatora i puteva bijega/osoba /minimum distance between generators and escape routes/persons

**DOKUMENTACIJA ZA TIPNO ODOBRENJE:***TYPE APPROVAL DOCUMENTATION:*

**Tehnička dokumentacija: FirePro Information, Instruction & User Manual, Version 6 (2016-06-24) and complementary Marine Manual Annex 1 Version 3 (2016-06-24).**

**Izvjешća o ispitivanju:**

- USCG R&D Center Final Report iz prosinca 2005. prema IMO MSC/Circ.1007 (s dopisom DNV-a br. MTPN0374/AUB/262-J-49620 / posvjedočenje testiranja od 2006-06-28);
- Fire test report no. 2011-Efectis-R1134 iz siječnja 2012, prema IMO MSC.1/Circ.1270 izdan od Efectis Nederland BV;
- Report No 50151217-KPS/TPE 02-6144 od 02-09-27 od KEMA, The Netherlands (Health and Environmental Aspects of the FirePro Fire Extinguisher).

*Technical documentation: FirePro Information, Instruction & User Manual, Version 6 (2016-06-24) and complementary Marine Manual Annex 1 Version 3 (2016-06-24).*

*Test Reports:*

- USCG R&D Center Final Report dated December 2005 as per IMO MSC/Circ.1007 (with DNV letter MTPN0374/AUB/262-J-49620/test witness dated 2006-06-28);
- Fire test report no. 2011-Efectis-R1134 dated January 2012 as per IMO MSC/Circ.1270 issued by Efectis Nederland BV;
- Report No 50151217-KPS/TPE 02-6144 dated 02-09-27 from KEMA, The Netherlands (Health and Environmental Aspects of the FirePro Fire Extinguisher).

**OZNAČAVANJE PROIZVODA:***MARKING OF PRODUCT:*

**Proizvod se mora označiti imenom proizvođača, oznakom proizvoda, datumom proizvodnje i rokom valjanosti (mjesec i godina).**

*The product shall be marked with manufacturer name, type designation, date of manufacture and term of validity (month and year).*

**UVJETI ZA CERTIFIKACIJU:***CONDITIONS FOR CERTIFICATION:*

**Za svaku instalaciju na brodu, nacrti, proračuni i upute za instalaciju, korištenje i održavanje sustava moraju se dostaviti HRB-u na odobrenje.**

*For every system installation on board, drawings, calculations and installation, operation and maintenance manuals shall be submitted to CRS for approval.*