

Protivpožarna zaštita ventilacionih i dimovodnih kanala u trajanju od 120 min brzo i efikasno se obezbeđuje primenom sistema zaštite sa premazima.

Oblast primene:

Protivpožarni kanali za ventilaciju i odvod dima i toplice predstavljaju sastavni deo sistema zaštite od požara u objektima i namenjeni su za odvod i kontrolu dima u toku požara kao i za ubacivanje svežeg vazduha. Sistem je dizajniran tako da u potpunosti zadovolji sledeće potrebe:

- Zaštita evakuacionih puteva u toku požara u trajanju od 120 min.
- Snižavanje temperature prostora u toku požara
- Stvaranje nezadimljenih zona
- Zaštita ljudi i imovine

Najvažniji standardi iz ove oblasti prema kojima je protivpožarni kanal ispitani i klasifikovan su:

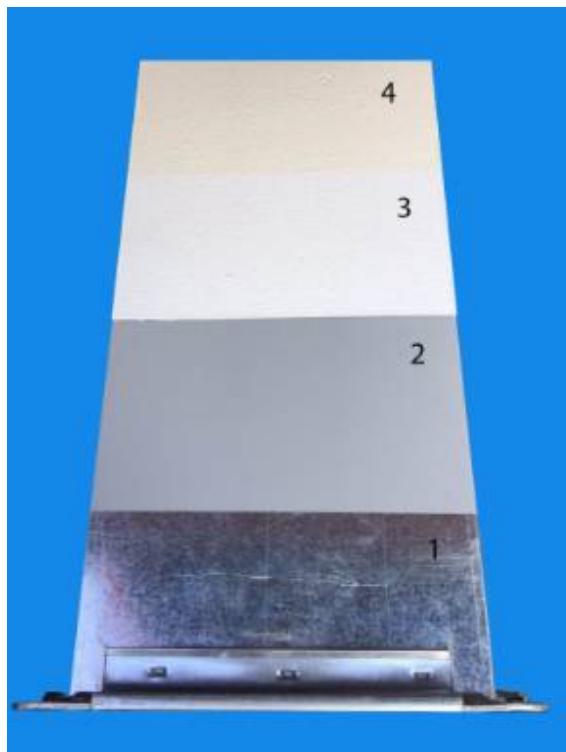
- ✓ SRPS ISO 834
- ✓ SRPS EN 13501-4
- ✓ SRPS EN 1366-9
- ✓ SRPS EN 1366-1 (SRPS ISO 6944)
- ✓ SRPS EN 1363-1
- ✓ SRPS EN1363-2

Komponente sistema

Sistem protivpožarne zaštite kanala sa premazima sastoji se od tri glavne komponente:

1. Odmašćivač
2. Prajmer ($50\pm20 \mu\text{m}$) - F1RE E EPO
3. Protivpožarni premaz ($350\pm50 \mu\text{m}$) – NulliFire

Opciono, na površinu protivpožarnog premaza može se naneti i bilo koja boja iz RAL karte, što poboljšava vizuelnu dopadljivost, a ne utiče na funkciju zaštićenog kanala u slučaju požara.



1. Kanal – Odmašćivač
2. Prajmer
3. Protivpožarni premaz
4. RAL boja

Kanali

Sistemom sa premazima mogu se štititi kanali koju su izrađeni u skladu sa standardom DW 144, pravougaonog ili kružnog poprečnog preseka.

Ispitivanja (atesti)

Sistem zaštite je ispitani u laboratoriji FIRES (Slovačka) akreditovanoj prema ILAC MRA (<https://ilac.org/about-ilac>) koja je ujedno i sama akreditaciono sertifikaciono telo.

Ispitivanja su izvršena u skladu sa:

- **(SRPS) EN 1366-1:** Ispitivanja otpornosti servisnih instalacija na požar — Deo 1: Ventilacioni kanali
- **(SRPS) EN 1366-9:** Ispitivanje otpornosti na požar servisnih instalacija — Deo 9: Kanali za ekstrakciju dima iz jednog požarnog sektora
- **(SRPS) EN 13501-4:** Požarna klasifikacija građevinskih proizvoda i elemenata zgrade — Deo 4: Klasifikacija na osnovu podataka dobijenih ispitivanjem otpornosti na požar na komponentama sistema za kontrolu dima

Klasifikacija

Na osnovu ispitivanja prema (SRPS) EN 13501-4 sistem je klasifikovan kao:

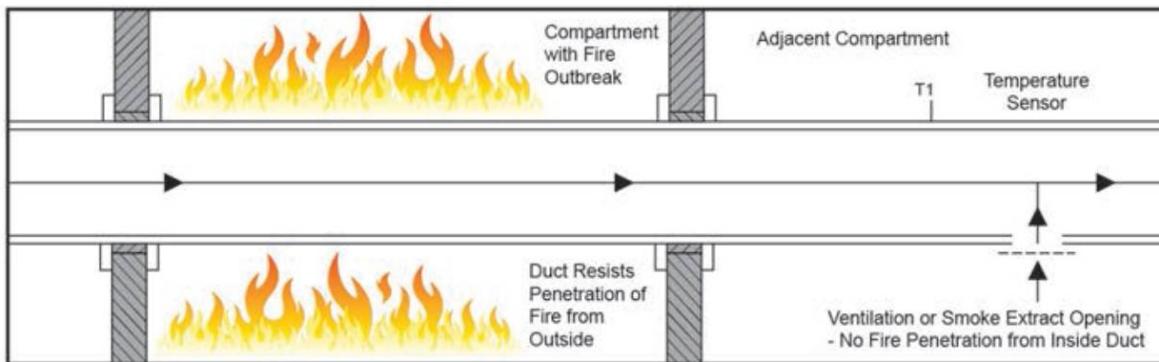
<1250x1000 mm E600 120 ho1000 single

KARAKTERISTIKE	PERFORMANSE	VREDNOST	STANDARD
Odimljavanje i ventilacija	Integritet (E)	120 min, 600°C	SRPS EN 13501-4
Odimljavanje i ventilacija	Podpritisak	1000 Pa	SRPS EN 1366-9 i SRPS EN 1366-1
Odimljavanje i ventilacija	Nadpritisak	500 Pa	SRPS EN 1366-9 i SRPS EN 1366-1
Odimljavanje i ventilacija	Izmereno curenje nezaštićenog kanala	7,3 m ³ /h ≤ 10 m ³ /h na -1000Pa	SRPS EN 1366-9
Odimljavanje i ventilacija	Izmereno curenje zaštićenog kanala	nema curenja vazduha	SRPS EN 1366-9
Odimljavanje i ventilacija	Mehanička stabilnost (S)	ispunjena	SRPS EN 1366-9
Odimljavanje i ventilacija	Orijentacija kanala	horizontalan	SRPS EN 1366-9
Odimljavanje i ventilacija	Način ugradnje	jednosektorski	SRPS EN 1366-9
Odimljavanje i ventilacija	Prateći elementi ugradnje	nosači i prodori (ho+ve)	SRPS EN 1366-9 i SRPS EN 1366-1
Odimljavanje i ventilacija	Delovanje vatre na kanal	A (spolja) i B (iznutra)	SRPS EN 1366-1

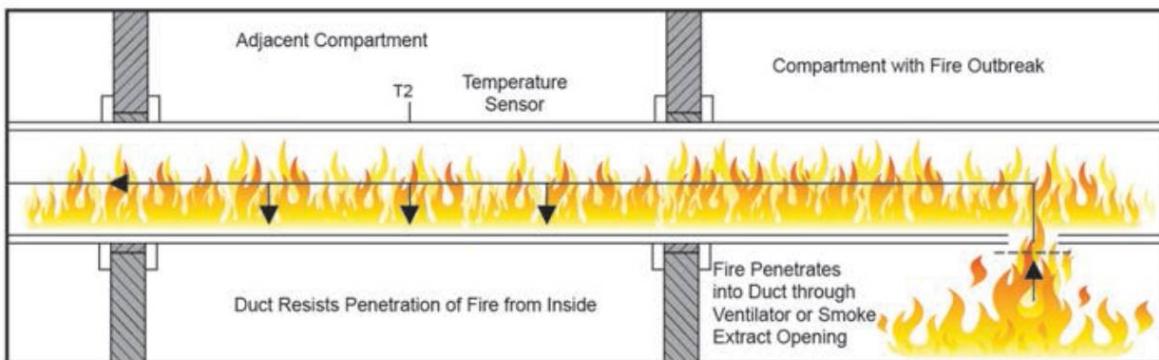
Delovanje vatre

S obzirom da je sistem protivpožarne zaštite sa premazima ispitana u potpunosti u skladu sa (SRPS) EN 1366-1, delovanje vatre moguće je:

SPOLJA (TIP A)



IZNUTRA (TIP B)



Ostali elementi zaštite

S obzirom da je sistem protivpožarne zaštite sa premazima ispitana u potpunosti u skladu sa (SRPS) EN 1366-1 i (SRPS) EN 1366-9, ostali elementi koji se štite su prodori i nosači kanala.

Fire protection of ventilation and smoke extraction ducts up to 120 min is quickly and efficiently provided with the fire protection system with protection coating.

Scope of application:

Fire ducts for ventilation and smoke and heat exhaust are an integral part of the fire protection system in buildings and are intended for the extraction and control of smoke during a fire and for the injection of fresh air. The system is designed to fully meet the following needs:

- Protection of evacuation routes during a fire for 120 min.
- Lowering the room temperature during a fire
- Creation of non-smoked areas
- Protecting people and property

The most important standards in this field by which the fire channel is tested and classified are:

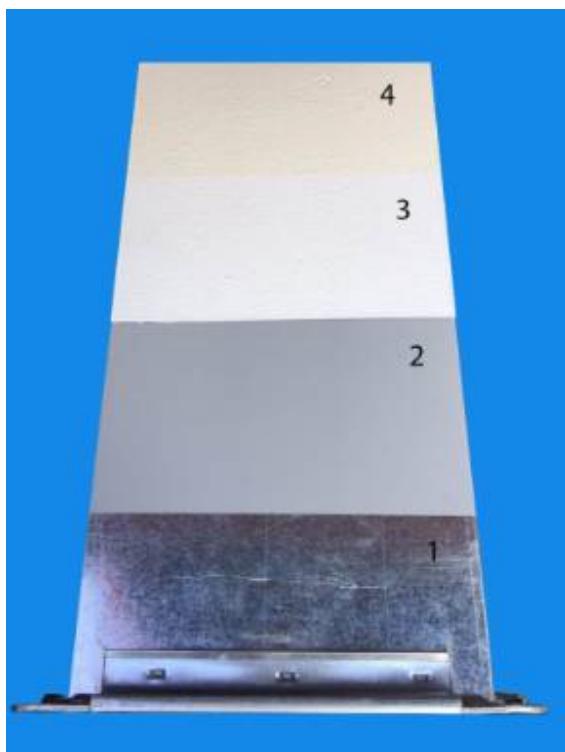
- ✓ SRPS ISO 834
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- ✓ SRPS EN 1366-9
- ✓ SRPS EN 1366-1 (SRPS ISO 6944)
- ✓ SRPS EN 1363-1
- ✓ SRPS EN1363-2

System Components

The system with protection coating consists of three main components:

1. **Degreaser**
2. **Primer** ($50\pm20 \mu\text{m}$) - FIRE E EPO
3. Fire protection coating ($350\pm50 \mu\text{m}$) - NulliFire (coating)

Optionally, any color from the RAL card can be applied to the surface of the fire protection coating, which improves visual acuity and does not affect the function of the protected duct in the event of a fire. In that case, the duct can be washed and clean with water.



1. Duct - Degreaser
2. Primer
3. Fire protection coating
4. RAL color

Ducts

System with fire protection coating can be applied on ducts manufactured in accordance with standard DW 144, rectangular or circular cross-section.

Tests (attests)

System with fire protection coating was tested in the laboratory FIRES (Slovakia) accredited to ILAC MRA (<https://ilac.org/about-ilac/>) and EGOLF (www.egolf.org.uk), which is also the accreditation and certification body itself.

Tests were conducted in accordance with:

- **(SRPS) EN 1366-1:** Fire resistance tests for service installations - Part 1: Ventilation ducts
- **(SRPS) EN 1366-9:** Fire resistance testing of service installations - Part 9: Single compartment smoke extraction ducts.
- **(SRPS) EN 13501-4:** Fire classification of construction products and building elements - Part 4: Classification using data from fire resistance tests on components of smoke control systems.

Classification

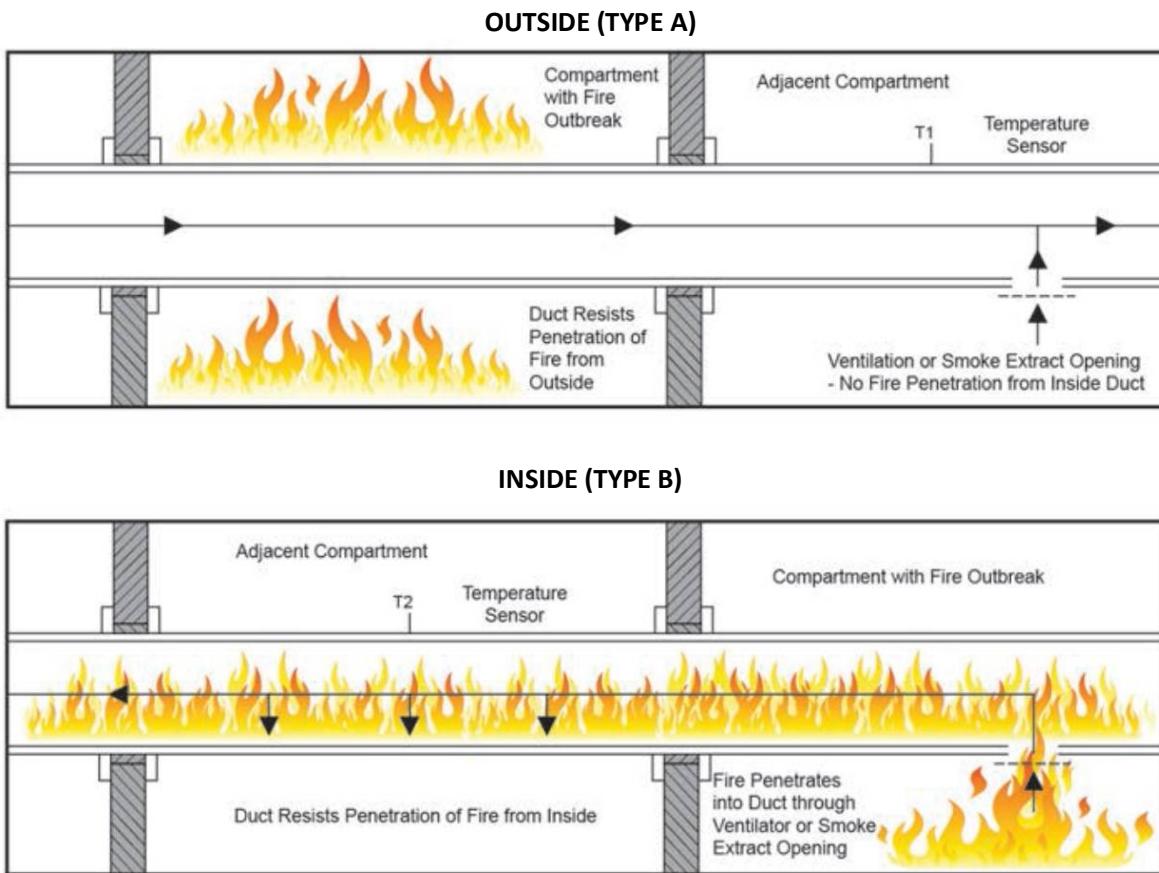
Based on the test according to (SRPS) EN 13501-4 System with fire protection coating is classified as:

<1250x1000 mm E600 120 ho1000 single

CHARACTERISTICS	PERFORMANCE	VALUE	STANDARD
Ventilation and smoke extraction	Integrity (E)	120 min, 600°C	SRPS EN 13501-4
Ventilation and smoke extraction	Underpressure	1000 Pa	SRPS EN 1366-9 and SRPS EN 1366-1
Ventilation and smoke extraction	Overpressure	500 Pa	SRPS EN 1366-9 and SRPS EN 1366-1
Ventilation and smoke extraction	Measured leakage of unprotected channel	7,3 m ³ /h ≤ 10 m ³ /h at -1000Pa	SRPS EN 1366-9
Ventilation and smoke extraction	Measured leakage of protected channel	no air leakage	SRPS EN 1366-9
Ventilation and smoke extraction	Mechanical stability (S)	fulfilled	SRPS EN 1366-9
Ventilation and smoke extraction	Duct orientation	horizontal	SRPS EN 1366-9
Ventilation and smoke extraction	Installation method	single sector	SRPS EN 1366-9
Ventilation and smoke extraction	Supporting installation elements	mounts and penetrations (hor+ver)	SRPS EN 1366-9 and SRPS EN 1366-1
Ventilation and smoke extraction	The effect of fire on a duct	A (outside) and B (inside)	SRPS EN 1366-1

Fire performance

Since system with fire protection coating has been tested fully in accordance with (SRPS) En 1366-1, fire performance is possible:



Other installation elements protected with system with fire protection coating

Since the system with fire protection coating is tested completely in accordance with (SRPS) EN 1366-1 and (SRPS) EN 1366-9, other installation elements protected with this system are the penetrations through the walls and ducts, carriers, hangers and etc.