

SFEX

(주) 스펙스텍

Initial Suppression of
Electrical Fire

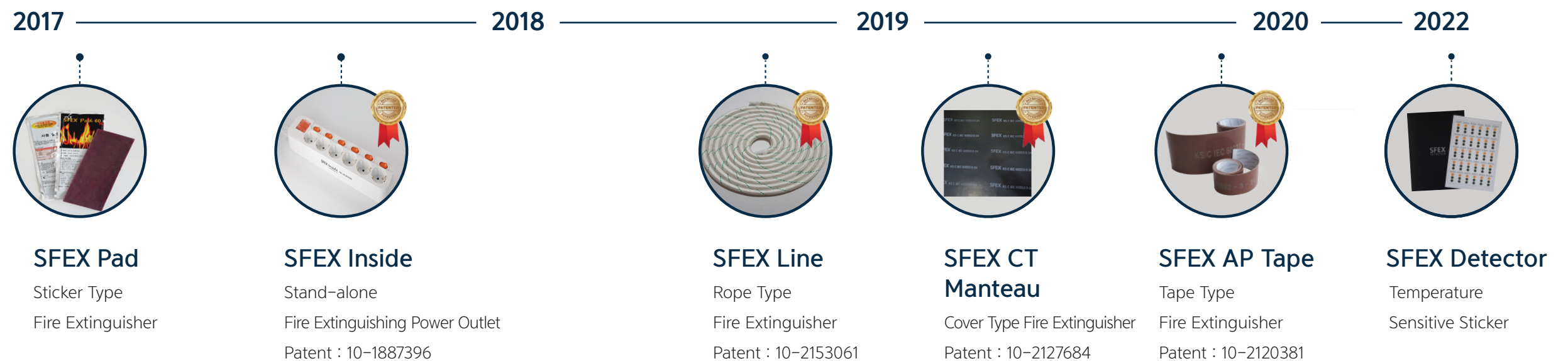
Refractory Materials
Development



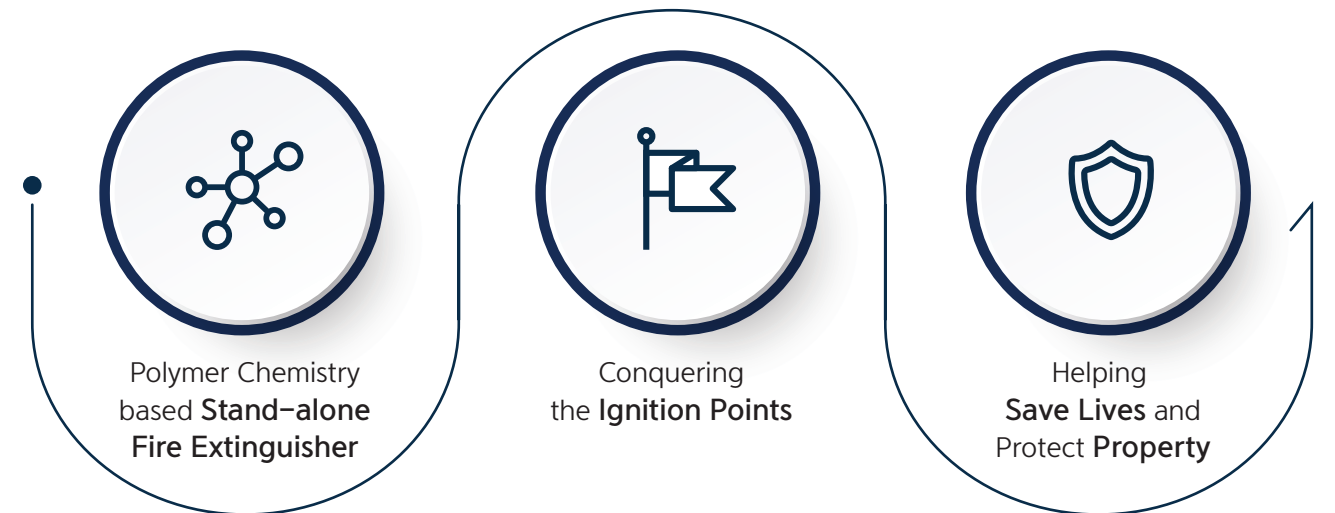
COMPANY HISTORY

- 2017. 03 Established SFEX TECH CO., LTD.
- 09 Certified as a Venture Company
- 09 Certified as a Research Institute
- 12 Received the Presidential Award on the '10th Product Safety Day' led by the Ministry of Trade, Industry and Energy
- 2018. 06 Won the Grand Prize at the '2018 New Safety Technology Exhibition' Held by Korea Occupational Safety and Health Agency
- 10 Selected as a Product to be Preferentially Purchased as well as an Excellent Invention by the Korea Invention Promotion Association
- 2019. 07 Opened the First Factory
- 11 Selected by the Ministry of National Defense for Military Use
- 2021. 07 Signed a Partnership Agreement with Firetrace USA, LLC, A Halma Company
- 12 Opened the Second Factory
- 2022. 04 Certified ISO 9001 and ISO 14001
- 06 Selected as a BRAND K, National Co-Brand by the Ministry of SMEs and Startups

PRODUCT HISTORY



SFEX Stand-alone Fire EXtinguisher



Stand-alone Fire Extinguisher for Electric Panels

3 STEP SOLUTION FOR ELECTRICAL FIRE PREVENTION


















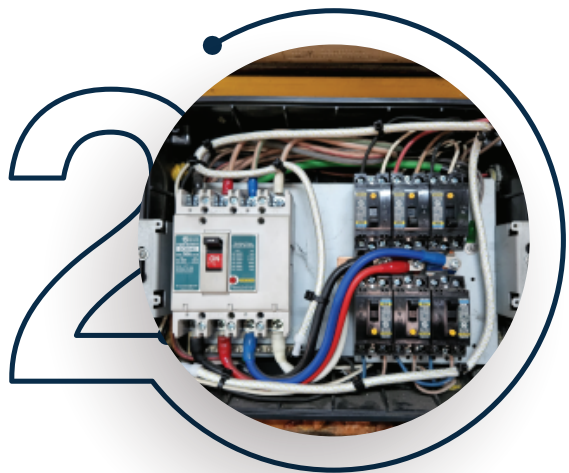
1 Precaution

Visually Checkable

SFEX Detector
Temperature Sensitive Sticker

1 Color Change Example

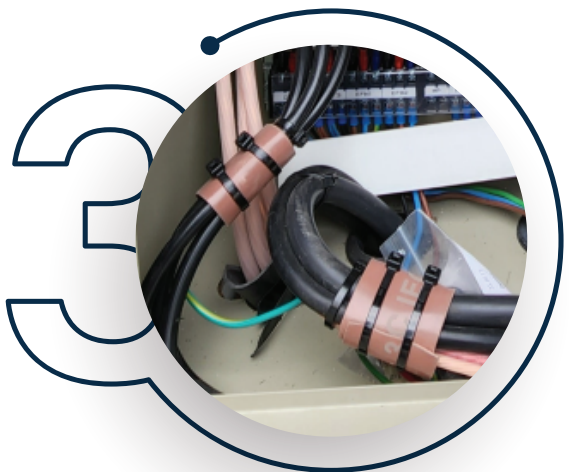
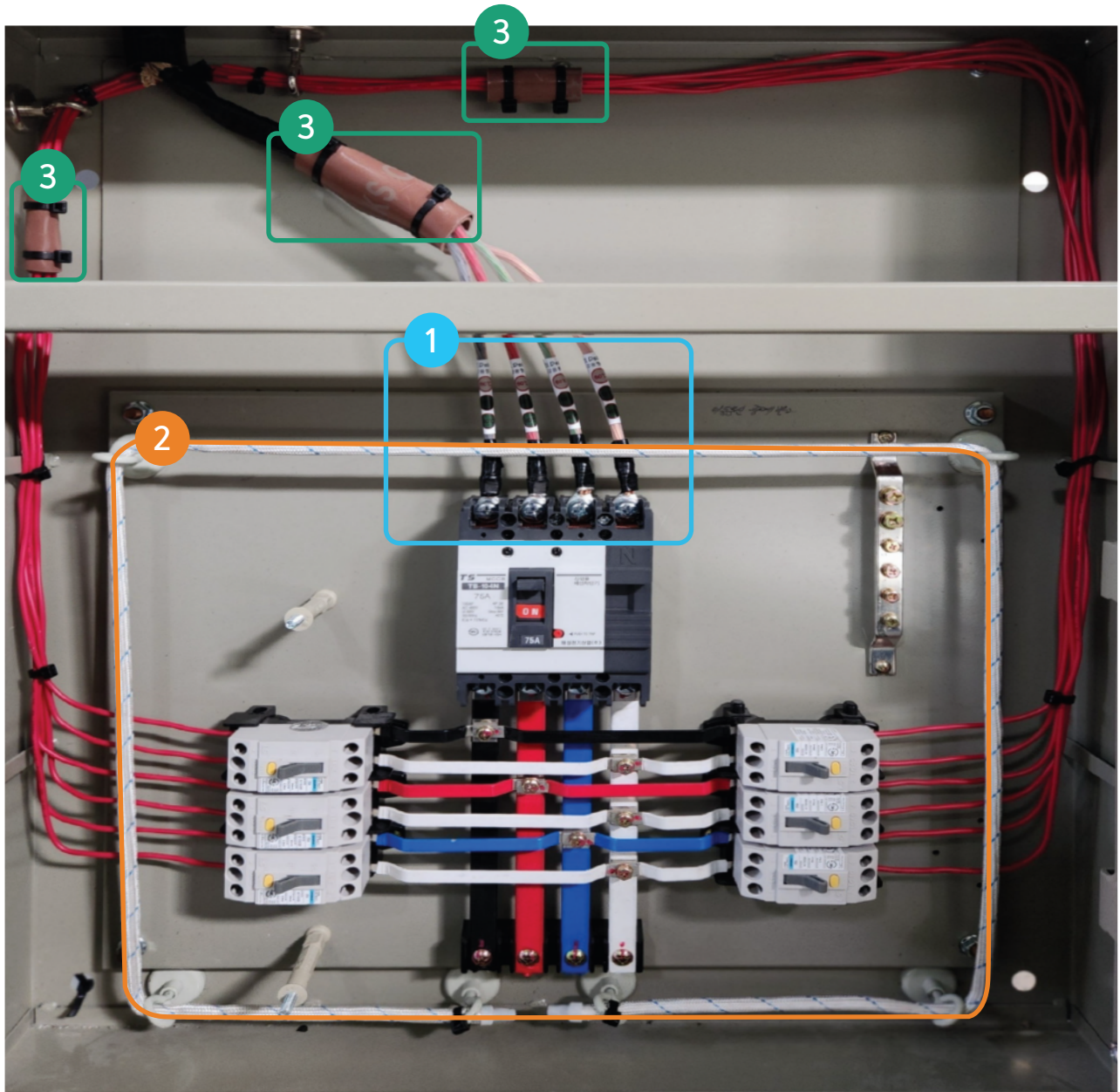
SAFE (~40℃)	ATTENTION (40℃~)	WARNING (50℃~)	DANGER (60℃~)	RESTORATION (~40℃)
SFEX Detector 온도감응형스티커	SFEX Detector 온도감응형스티커	SFEX Detector 온도감응형스티커	SFEX Detector 온도감응형스티커	SFEX Detector 온도감응형스티커
				
				
				



2 Initial Suppression

Stand-alone Fire Extinguishing

SFEX Line
Rope Type Fire Extinguisher



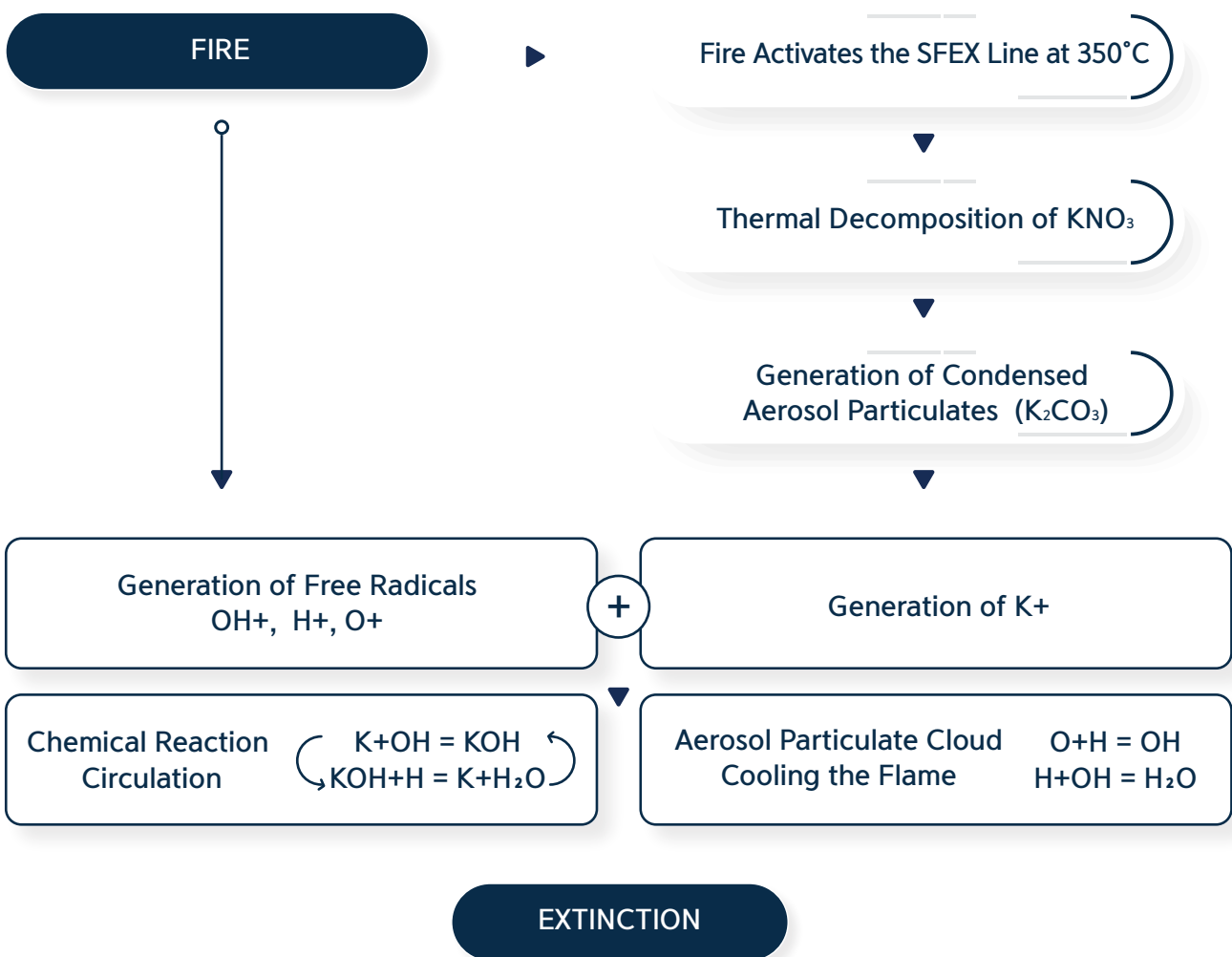
3 Preventing Spread

Backup Solution

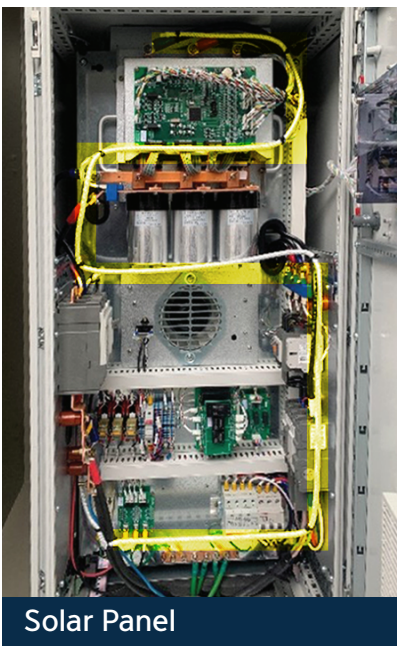
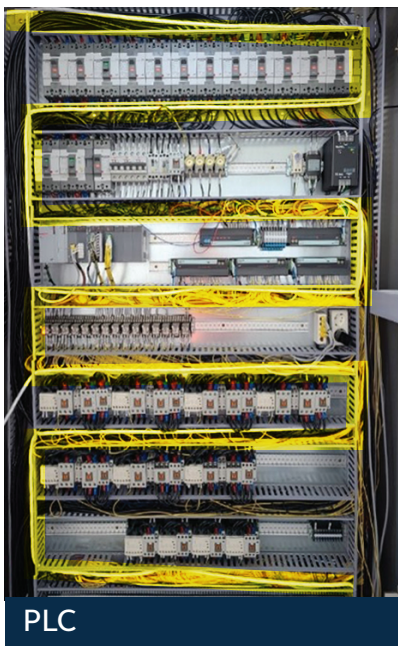
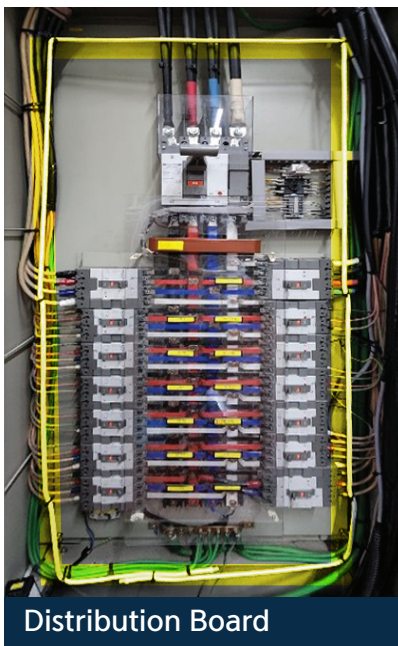
SFEX AP Tape
Tape Type Fire Extinguisher

Stand-alone Fire Extinguisher for Electric Panels

The Principle of How SFEX Line Works



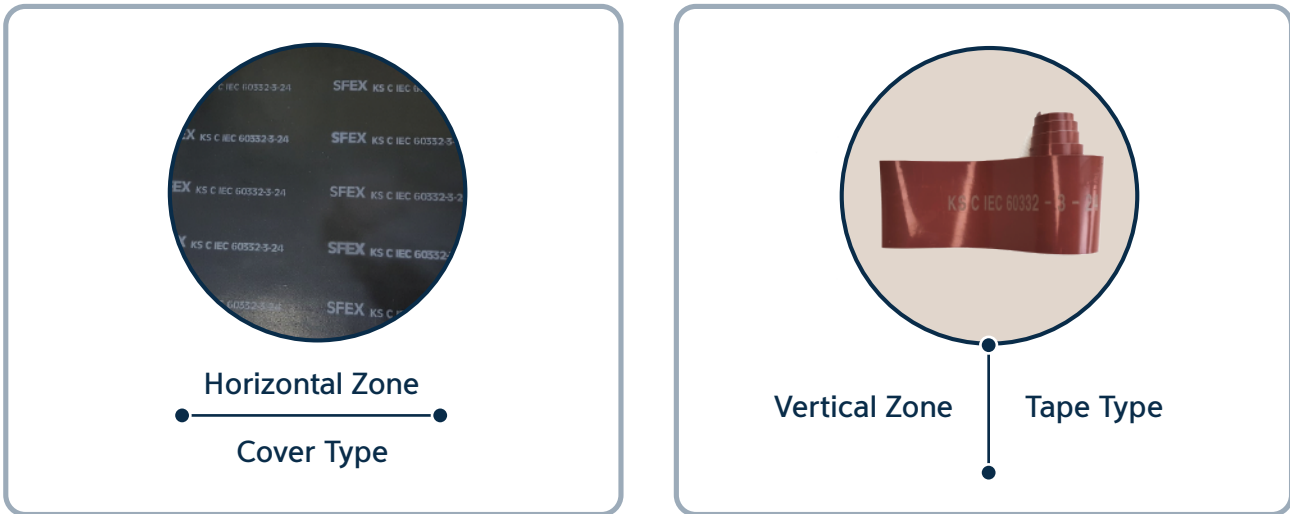
Installation References



Stand-alone Fire Extinguisher for Cable

SFEX CT Manteau

SFEX AP Tape

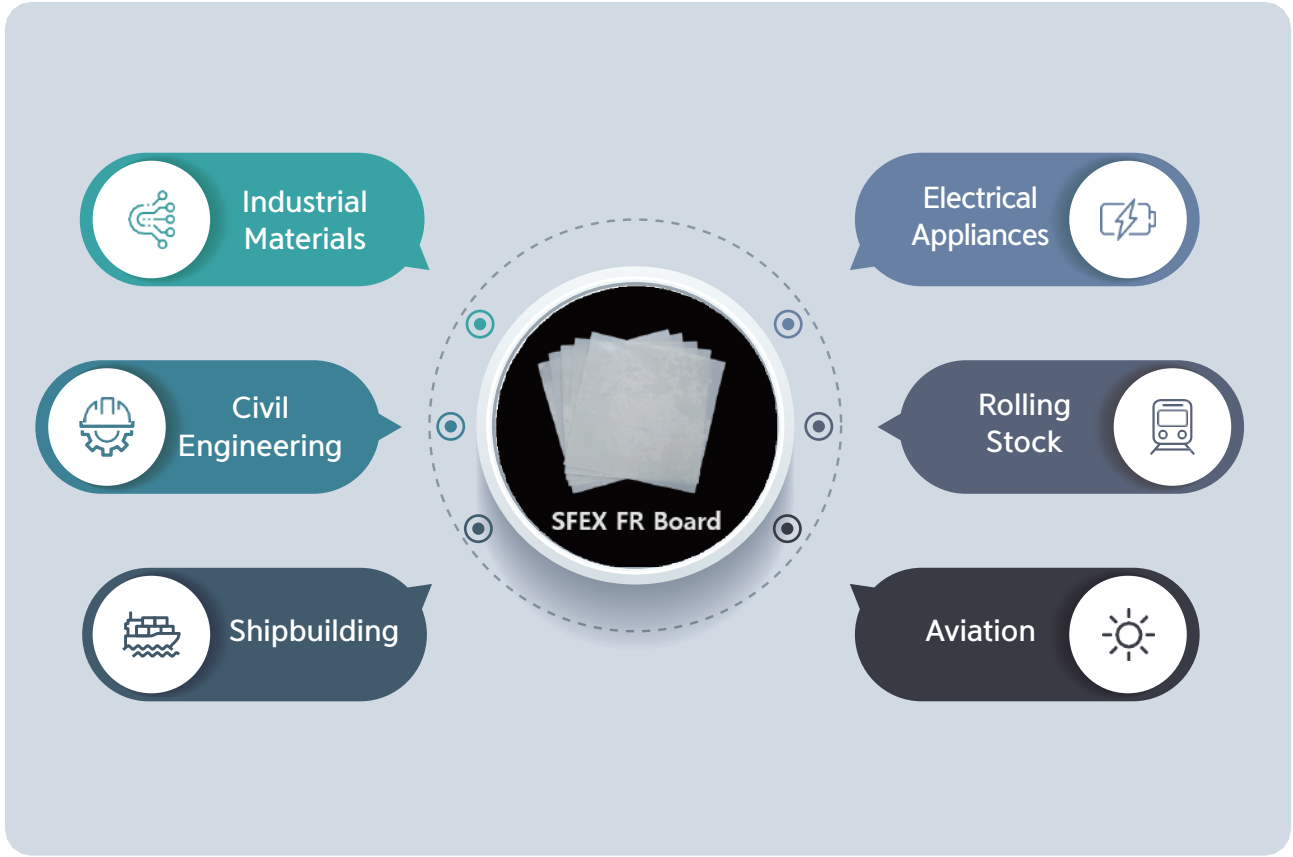
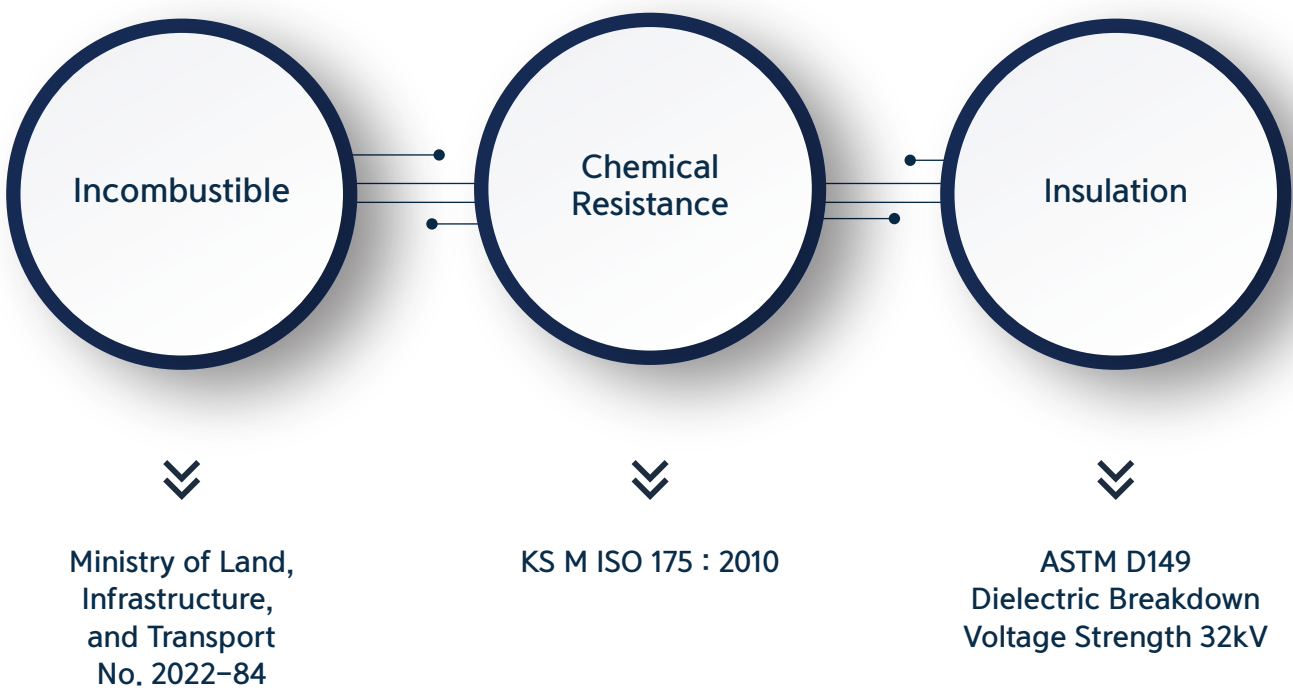


Installation References



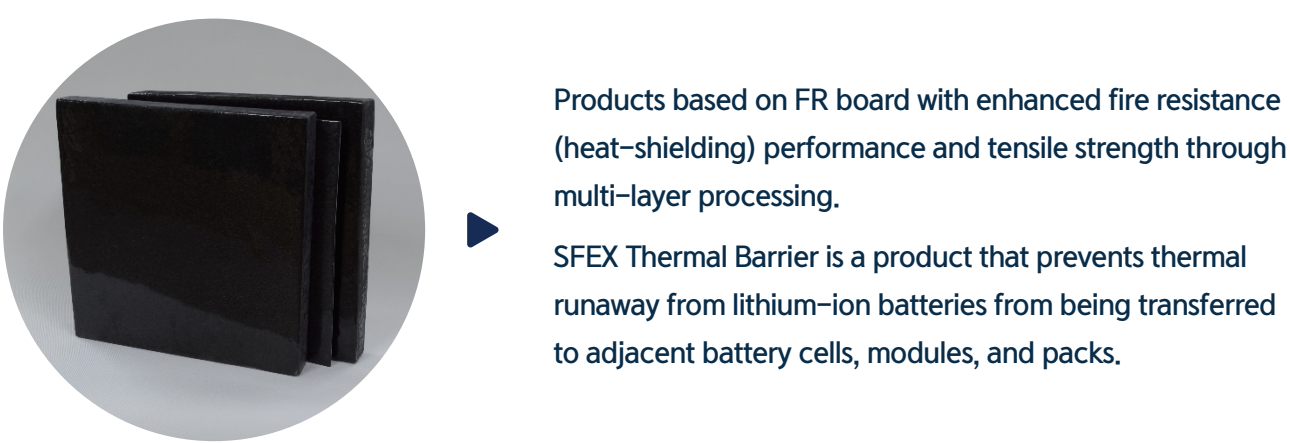
SFEX FR Board

Non-combustible Reinforced Plastic



SFEX Thermal Barrier

Battery Thermal Runaway Propagation Barrier



Application



SFEX FR Board

Non-combustible + Gas Hazard Test report

Test Report

MO : CT22-085789E

1. Client
 Name : SPEX Tech Co., Ltd
 Address : 201-2 He, 60, Seongnam-dong, Seongnam-si, Gyeonggi-do, Republic of Korea
 Date of Request : 2022.09.07

2. Specimen
 Specimen Name : SPEX FR Board
 Model Name : SPEX FR Board
 Product Name :

3. Test Standard : MOLIT(Ministry of Land, Infrastructure and Transport) Notification No. 2020-64

4. Use of Report : Quality control

5. Test Method : 2022-09-07 ~ 2022-10-26

6. Test Condition : Refer to the next page

7. Test Results
 The tested specimen complies with the criteria as stipulated in MOLIT(Ministry of Land, Infrastructure and Transport) Notification No. 2020-64, Article 25, Subparagraph 1, in the second table.
 The tested specimen complies with the criteria as stipulated in MOLIT(Ministry of Land, Infrastructure and Transport) Notification No. 2020-64, Article 25, Subparagraph 2, in the second table.

Confirmation: Tested by: Lee Hwan-Wook / 873
 Issued by: Kim Yoon / 4444
 Issue Date: 2022.10.26

Korea Conformity Laboratories President: Jo, Yung-Tae

* This test report is valid for 3 years from the date of issue.

Test Report

No. : CT22-085789E

■ Test results

Test Items	Unit	Test results			Criteria	Test method	Location
		1 st	2 nd	3 rd			
Non-Combustibility test	%	17.1	16.3	18.0	≤ 30	(1)	A
Difference between maximum temperature and final temperature	℃	1.6	1.1	0.8	< 20		
Gas Toxicity Test	Average stop motion time of laboratory mouse min:s	14:43	15:00	-	≥ 9:00		

Dielectric Breakdown Voltage Strength / Immersion Test Report

Koptri

www.koptri.or.kr
Test report No.: 22-0801
Page 1/2

TEST REPORT

1. **Applicant**
Company: SFXE
Address: 45, Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

2. **Date of Application**: 2022. 11. 11

3. **Purpose of Application**: Quality Control

4. **Sample Name**: Refer to Table 1

5. **Appearance**: Good

6. **Test Item**: Refer to Table 2

7. **Test Method**: Refer to Table 2

8. **Testing Period**: 2022. 11. 11 ~ 2022. 11. 22

9. **Test Result**: Refer to Table 2

10. **Analysis assistant**: Jinyoung Kim (Inspector)

Affirmation	Inspector	Signature	Stamp
I hereby certify that the above test results were obtained by the approved measurement method of the test report in accordance with the applicable standards and that the test results are correct.	Jinyoung Kim		

Issued Date: November 23, 2022

Tested by
Korea Polymer Testing & Research Institute

Korea Polymer Testing & Research Institute
Lab Address: 201, Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

TEST REPORT

Table 1. Sample Information

No.	Sample Name	Koptri ID	Picture of the Sample
1	SFXE FR Board	Koptri-22-08-14063-1	

(Note)

a) Sample Provided: Koptri () / Applicant ()

Table 2. Test Result

Report ID	Test Item	Unit	Test Method	Test Result
Koptri-22-08-14063-1	Dielectric Breakdown Voltage	KV	ASTM D145	32
	Dielectric Breakdown Strength	KV/mm	ASTM D145	6.4

(Note)

a) Rate of Rise: 2 800 V/s
b) Thickness: 5.033 mm

BEYOND ASIAN PDR, TOWARD GLOBAL WORLD

TEST REPORT

58, Gyeongsang-daero, Gyeongsang-si, Gyeongsang-do, Republic of Korea
TEL: 02-0-0184-0111 FAX: 02-0-0184-0188

Report No.: T-2022-008714
Representative: Jang Jia Park
Company name: SFXE Tech Co., Ltd.
Address: 45-2 (Bundang 2-dong) E2 Tower B, Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea 13508

Report Date: 2023.01.12
Test Completion Date: 2023.01.12

Sample name: FR BOARD

Test Results			
TEST ITEM	UNIT	SAMPLE	RESULT
Immersion Test (Acid 50%, 24h)	-	-	Passing KSM ISO 195:2010
Appearance (Setting, Crack)	-	-	No Defects
Immersion Test (Alkaline 50%, 24h)	-	-	Passing KSM ISO 195:2010
Appearance (Setting, Crack)	-	-	No Defects
Immersion Test (Acid 50%, 12h)	-	-	Passing KSM ISO 195:2010
Appearance (Setting, Crack)	-	-	No Defects

— Usage of Report: QUALITY CONTROL

Note: 1. The test results of this report are only limited to the samples and sample names provided by the client and do not guarantee the quality of all products of the client. You can check inside (www.ktr.or.kr) or QR code to verify the authenticity of the certificate.
2. This report shall not be used for the purpose of its defined scope and shall not be used for public relation, advertisement and warranty.
3. This report is only valid when printed in KTR color report paper with hologram and when it is issued by KTR. The copy and the electronic file of the test report are only for reference.

Kim Seok Jun
Prepared by Kim Seok Jun
Tel: 02-000-0175

2023.01.12

Hyun Chul
Reviewed by Hyun Chul Kim
Tel: 02-899-0452 (0-0)

Korea Testing & Research Institute

President Kim Hyun Chul

Page 1 of 1

KTR GYEONGSANG
KOREA TESTING & RESEARCH INSTITUTE 1/23 (P. 000 TEL: 0000)

2023.01.12

SFEX Thermal Barrier


Fire Resistance Test Report (TB-S)

G48(www.gfb.go.kr)등록회원번호 : R402636261

TEST REPORT

Report No. :
AMN-N-2022-00137

AMI 건축자재시험연구원
AMI Building Materials Test Institute
162-30, Gyesan-3gil, Munbaek-myeon, Jincheon-gun,
Chungcheongbuk-do, Republic of Korea
Tel. 043-534-3450 Fax. 043-537-3450



Page: 1 / (12) Pages

1. Client

- Name : STEK Tech Co., Ltd
- Address : 69 Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do
- Date of Receipt : Nov. 28, 2022.

2. Sample Description

- Manufacturer's name : STEK Tech Co., Ltd
- Name of the product : STEK TS-5

3. Use of Test Report : Quality Control

4. Date of Test : Nov. 28, 2022.

5. Test method used : KS F 2257-1 : 2019 (Method of fire resistance test for elements of building construction – general requirements)

6. Environment Condition : (See "Test environment")

7. Test Location : ☒ Lab ☐ Field
Address : 162-30, Gyesan-3gil, Munbaek-myeon, Jincheon-gun, Chungcheongbuk-do, Republic of Korea

8. Test Results : See "Test Results"

Test Items

Performance criteria

Test results

Test method


Fire resistance test	Integrity (60 min)	Average temperature	Do not increase the average temperature above the initial average temperature by more than 140 K	56.8 °C	KS F 2257-1 : 2019
		Maximum temperature Roving thermocouple	Do not increase above the initial temperature at any location by more than 180 K	59.9 °C	
	Insulation (60 min)	Cotton wool pad	Do not ignite	Not apply	
		6 mm gab gauge	The gauge projects into the furnace, and can not be moved a distance of 15 mm along the gap	Not ignite	
		25 mm gab gauge	Do not penetrate the test object	Not penetrated	
		Flaming occurrence	Do not sustain flaming in excess of 10s	Not penetrated	
			No flame		


1. This report is the result of testing with the sample and sample code presented by the client, and does not guarantee the quality of the entire product, and its use for any other purpose is prohibited.

2. This report is not related to ISO 9001, ISO 14001 and ISO 45001.


3. The test results marked with "*" are outside the scope of accreditation of the testing institution.


Attention

Tested by
Name : SELUNGJUNG 

Technical Manager
Name : BOHYUK LIM 

Dec. 27, 2022.

AMI Inc. 

 The Reliable & Trust Test Partner

AMN-QP-16-04-A(3)

Fire Resistance Test Report (TB-R)

G48(www.g48.go.kr)건축안전공도 : 27(gslWebHQ)

TEST REPORT

AMI 건축자재시험연구원
Architecture Materials test Institute

Report No. : AMI-N-2022-00001

Page 1 / 2 (10)Pages

102-80, Gyeon-gil, Munbaek-myeon, Jincheon-gun, Chungcheongbuk-do, Republic of Korea
Tel. 043-534-3458 Fax. 043-537-3458

AMI 건축자재시험연구원
Architecture Materials test Institute

Report No. : AMI-N-2022-00001

Page 1 / 2 (10)Pages

102-80, Gyeon-gil, Munbaek-myeon, Jincheon-gun, Chungcheongbuk-do, Republic of Korea
Tel. 043-534-3458 Fax. 043-537-3458

1. Client

○ Name : SFEK Tech Co., Ltd

○ Address : 49 Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do

○ Date of Receipt : March 28, 2023.

2. Sample Description

○ Manufacturer's name : SFEK Tech Co., Ltd

○ Name of the product : SFEK TB-R

3. Use of Test Report : Quality Control

4. Date of Test : March 28, 2023.

5. Test method used : KS F 2257-1 : 2019 (Method of fire resistance test for elements of building construction - general requirements)

6. Environment Condition : See "Test environment"

7. Test Location : ☒ Lab ☐ Field

Address : 102-80, Gyeon-gil, Munbaek-myeon, Jincheon-gun, Chungcheongbuk-do, Republic of Korea

8. Test Results : See "Test Results"

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Affirmation	Tested by Name : SEUNGGEOL	Technical Manager Name : BOHYUK LIM	
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