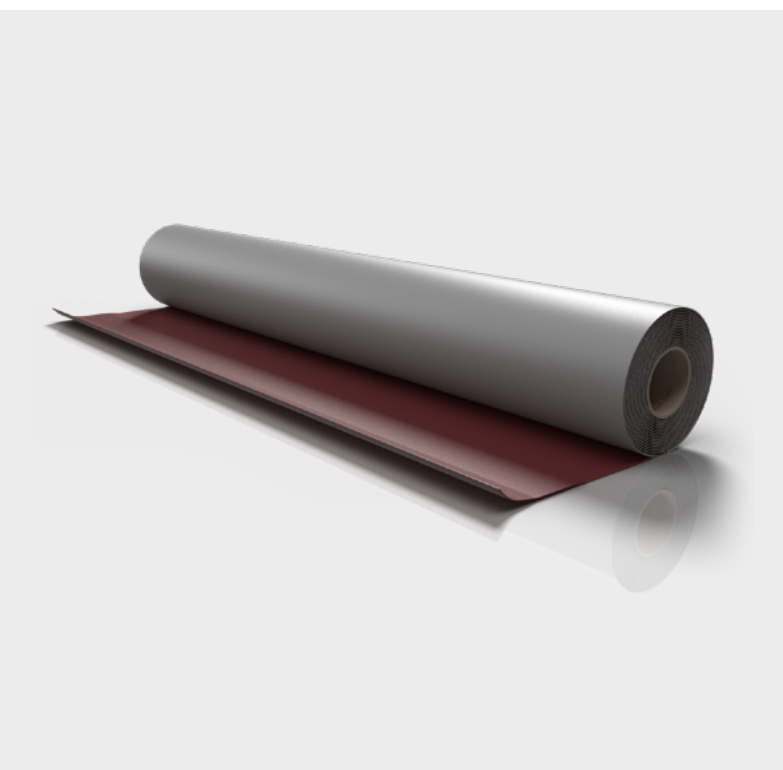


# Passive Fire Protection for Asia Pacific

Reliable products and customised solutions – Made in Germany





## **FLAMRO® – the svt quality brand or structural fire protection in Asia-Pacific**

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The svt Group of Companies is internationally recognized as an innovative manufacturer in the field of passive fire protection. With regard to passive structural fire protection, svt has placed emphasis on the FLAMRO® quality brand – initially in Germany and Europe, now worldwide. With FLAMRO®, you can therefore expect the usual svt expertise.

For over 50 years, svt and Flamro have been dedicated to the protection of people and property. From penetration seals via cable coatings to fire protection bandages – innovative Flamro products protect human lives in case of fire, prevent operational failures, and limit property damage, and avoid environmental damage.

Whether in New Zealand, Australia, Singapore, Malaysia, Indonesia, the Philippines, India, Bangladesh, Myanmar, Laos, Cambodia, Thailand, Vietnam, South Korea, Japan, or Sri Lanka: If you are looking for user-friendly preventive fire protection solutions, then Flamro is the right contact partner for you.

## **Flamro – passive structural fire protection in svt quality**

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Since 2018, Flamro has been a key part of the svt Group of Companies, which boasts a steadily growing portfolio in the field of fire protection. Within the svt Group, Flamro is responsible for preventive fire protection in the construction sector. For this reason, all products and applications in this area are now offered under the FLAMRO® brand name.

Flamro is committed to the development of innovative preventive structural fire protection products. With high-quality penetration seals, cable ducts, fire protection bandages, coatings and collars, Flamro reliably ensures building safety in case of fire. As a result, operational failures and environmental damage are prevented worldwide and, above all, human lives and property are protected.

svt Asia Pacific, which is strategically located in the regional hub of Singapore, also supplies numerous customers in the construction industry with Flamro preventive fire protection solutions – safe and reliable, just as you have come to expect from svt.

# Flamro convinces with numerous benefits

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Flamro has decades of experience in the field of structural fire protection. This not only applies for the processing and application of the diverse fire protection products and systems, but also innovative research and development.

With its headquarters in Germany, Flamro offers you products with “Made in Germany” quality. In the process, international standards, laws, and guidelines are also taken into account in order to meet our high standards.

As an internationally operating manufacturer of products and systems in the field of structural fire protection, Flamro also especially deals with international certifications. Additionally, our growing network provides a high level of support around the globe.

Sustainability is a top priority for Flamro. Our products are manufactured strictly in line with the latest findings in the areas of occupational health and safety and environmental protection. After all, Flamro has high standards in all areas.

## International certifications for Asia-Pacific

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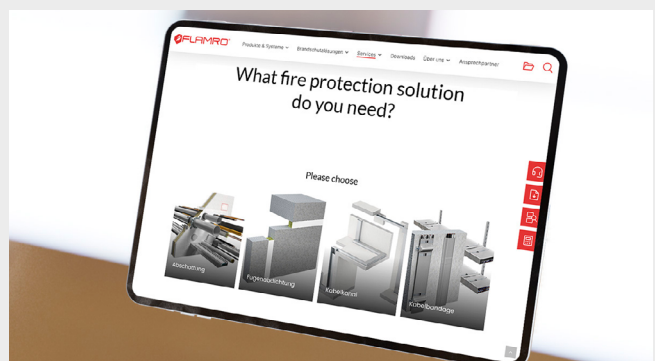
Flamro targets customers worldwide with its range of preventive structural fire protection products. Accordingly, our passive fire protection products and fire protection systems are adapted to various international standards – both industry-specific and cross-sectoral. This includes solutions certified according to UL 1479/ASTM E814, UL 2079/ASTM E1966, FM 3971, and EN 1366. The high standards for the various certifications are formulated by Flamro through continuous preliminary tests at the company’s own fire testing facilities and verified by renowned and accredited testing laboratories. With Flamro, you benefit from “Made in Germany” quality.

## The FLAMRO® UL Product Guide

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Find the right fire protection solution quickly and directly – online! The FLAMRO® UL Product Guide is a practical tool designed to facilitate decision-making in passive structural fire protection. Step by step, it will take you to the optimum fire protection system for your specific needs.

The FLAMRO® UL Product Guide is available at:  
[www.flamro.com/apac/services/product-guide](http://www.flamro.com/apac/services/product-guide)



# Smart solutions for all your needs

Whether you require fire protection solutions for residential structural engineering, industrial construction, infrastructure, energy, aviation, ships, rolling stock, fire protection doors, batteries, or solutions for customized industrial applications – you can rely on Flamro as your experienced and committed partner of choice.

## Buildings

E. g. residential and office buildings, hospitals, department stores, airports



## Industry

Proven applications in industrial areas, such as production facilities or heavy-industry environments



## Power Plants

Solutions for conventional and nuclear power plants, renewable energy facilities, as well as substations and utility tunnels



## Aviation

Fire protection for all types of aircraft and air traffic environments



## Ships & Offshore

Fire protection systems for the specific requirements of ships and offshore facilities



## Rolling Stock

High-performance fire protection at any speed



## Battery Applications

Fire protection that keeps pace with a fast-growing (e-mobility) market



## Building Components

Fire protection materials for doors, glazing units and façades

# Reliable protection for lives and property

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According to world statistics, a fire breaks out every minute of the day, whether in a residential building, an industrial plant, or in a public space. Fire incidents are likely to cause personal injury and considerable property damage, thus bringing great uncertainty and heavy losses to those involved. Sometimes, objects of value or documents destroyed in a fire can neither be recovered nor replaced and are lost forever. In many cases, the financial predicament resulting from process downtimes is so serious that companies are unable to resume their business operations properly, with some of them going bankrupt in the aftermath of the disaster.

But how and why is it that fire spreads so fast and far, and what are typical vulnerable spots to be aware of in buildings? For example, apertures accommodating electrical service penetrations and other installations (such as piping systems routed through walls and floors or installed at floor level) are relevant breeding grounds and hotbeds for fire hazards because they allow flames and smoke to propagate extremely fast from one building unit to the next, while heat transferred through metal pipes or droplets from burning-away cable jackets may ignite furniture as well as other flammable objects and substances in adjoining rooms.

So what can be done to effectively prevent fire from spreading across a building? In a nutshell, implementing passive structural fire protection measures devised by an expert in the field will fill the bill. The right passive fire protection system from a manufacturer and service provider with proven expertise will reliably confine a fire to its zone of origin – the so-called fire compartment – for a specified period of time. Thanks to this compartmentation effect, escape and rescue routes are kept clear during the fire-rated period so that people can safely leave the building without being obstructed, while persons in need of assistance can also be brought to safety.

Wisely implemented fire containment (firestopping) measures protect the whole building and thus significantly reduce the risk of personal injury and property damage. Downtimes are minimized, and business operations can soon be resumed:

With the right fire protection solution, all's well that ends well!



# Fire Protection Products and Solutions

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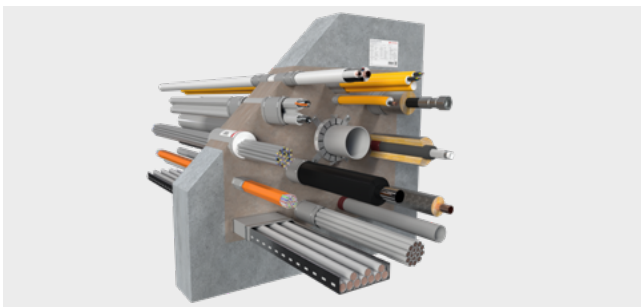
Tailor-made systems, products and services always guarantee our customers the best fire protection solutions. Our products and systems are tested and approved according to a large number of national and international, cross-departmental or industry-specific standards (e. g. UL, FM, EN, BS, Warrington Certifire or DNV GL).

## Penetration seals

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### System Novasit BM

Fibre-free mixed penetration seal made of fire-resistant mortar for a wide variety of cable and pipe penetrations. The System Novasit BM is particularly suitable for medium-sized and large openings. Fire-resistant up to max. 120 minutes.



### Highlights

- ✓ Design variant with seal thickness of only 100 mm
- ✓ Suitable for use in plasterboard walls
- ✓ No cutting or adjustment of the opening shape necessary
- ✓ Easy installation: due to excellent adhesive strength and stability of the mortar, formwork is not needed in most cases

### System Flammotect 2 × 50 mm

Mixed penetration seal made of two mineral fibre boards (2 × 50 mm) with ablative fire protection coating. Fire-resistant up to max. 120 minutes.



### Highlights

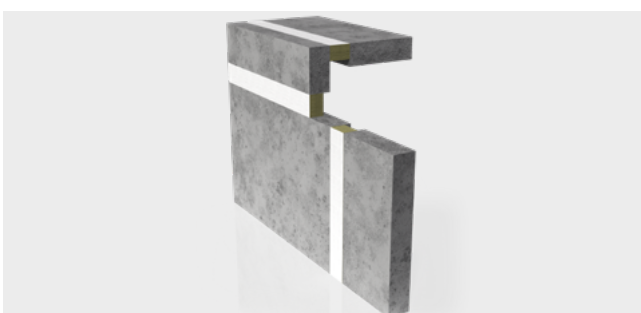
- ✓ Can be installed without cladding of the aperture edge
- ✓ Easy sealing of standard and non-standard combustible pipelines in the mixed penetration seal with wrap or collar
- ✓ Fire protection collar attached using coarse thread screws
- ✓ Approved as a fire protection solution in timber construction

## Joint seals

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### System Flammotect Joint Seal

Versatile joint sealing system made of mineral fibre products and ablative fire protection coating. Fire-resistant up to max. 120 minutes.



### Highlights

- ✓ Joints widths up to 200 mm possible
- ✓ Quick and easy joint sealing
- ✓ One-sided installation
- ✓ Particularly quick and easy installation thanks to different design variants

## BIOFERM A fire protection acrylate

BIOFERM A is a fire protection acrylate that is free of halogen, solvents, isocyanate, and silicone.



### Highlights

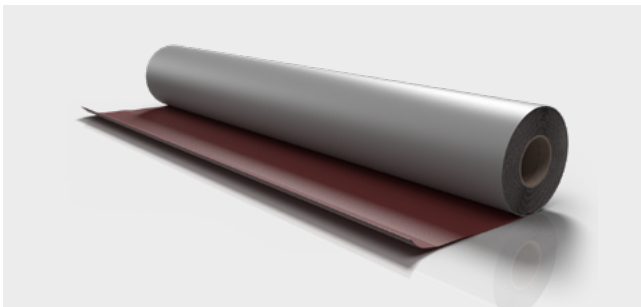
- ✓ Can be coated over
- ✓ Good UV resistance
- ✓ Weather-resistant
- ✓ Odourless

## Fire protections for cable systems

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### DG-CR 0.7 fire protection tape for cables

DG-CR 0.7 fire protection tape is a fire protection fabric made of flexible and tear-resistant glass filament fabric composite building material with an intumescent inner coating.



### Highlights

- ✓ Intumescent inner coating
- ✓ No need for time-consuming measures to protect the working environment
- ✓ No prior cleaning of cable systems required
- ✓ High resistance to weathering – suitable for indoor and outdoor use

### FLAMMOTECT-A fire protection paint

FLAMMOTECT-A fire protection paint is an ablative and weather-resistant fire protection coating. Available in three viscosities: FLAMMOTECT-A paint, FLAMMOTECT-A solid emulsion and FLAMMOTECT-A filler.



### Highlights

- ✓ Resistant to environmental influences, e. g. permanent moisture, UV radiation, freeze-thaw cycles or salt water
- ✓ Resistant to a multitude of chemicals
- ✓ Does not contain asbestos, lead, mercury, hexavalent chromium or polybrominated biphenyl

# References

Our fire protection products are successfully used in many areas and industry sectors e. g. in residential and commercial buildings, factories or power plants. Countless projects all over the world have been successfully carried out with our fire protection products. Next to the ease of use the svt products are characterised by their very high quality and economic application.



## **Siam Cement Group Thailand**

Project: Various cement plants in Thailand and Cambodia  
Products: FLAMMOTECT-A Cable Coating,  
Flammotect Penetration Seal Systems  
Application: HV and MV cable protection,  
building entry fire protection system  
Standard: IEC60332-3-22 Cat.A, EN1366-3



## **Tenaga Nasional Berhad (TNB) Malaysia**

Project: Electrical substations in Penang and Kedah state  
Product: FLAMMOTECT-A Cable Coating  
Application: HV and MV cable protection  
Standard: IEC60332-3-22 Cat.A



## **The Exchange 106 Tower, Kuala Lumpur Malaysia**

Project: MV power distribution in high rise building  
Products: DG-CR 0.7 Cable Bandage  
Application: MV cable protection  
Standard: IEC60332-3-22 Cat.A, IEC60331-21:1999



**Manjung Power Plant  
Malaysia**

Project: Cable protection at coal handling units  
Product: DG-CR 0.7 Cable Bandage  
Application: HV, MV and control cable protection  
Standard: IEC60332-3-22 Cat.A



**Primary Steel Plant, Victoria State  
Australia**

Project: Cable protection  
Product: DG-CR 0.7 Cable Bandage  
Application: HV, MV and control cable protection  
Standard: IEC60332-3-22 Cat.A



**Rafineria des Sines  
Portugal**

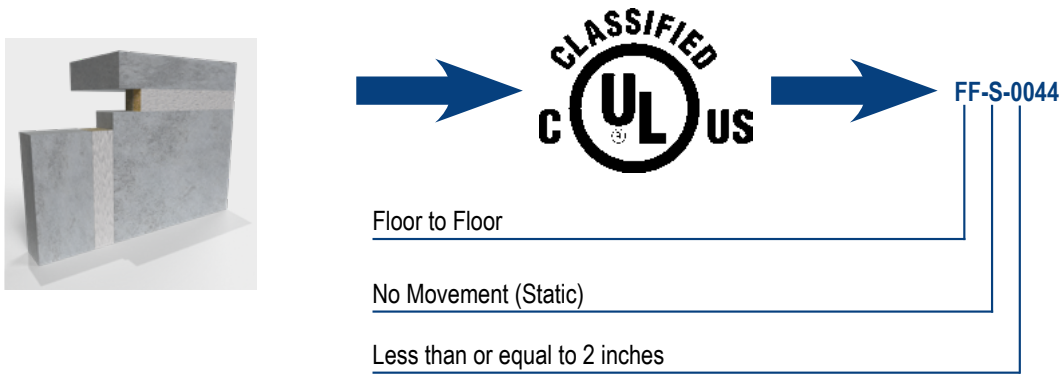
Project: Cable protection at petrochemical plant  
Product: FLAMMOTECT-A Cable Coating  
Application: HV, MV and control cable protection  
Standard: FM3971



# UL Listing No. for joints

UL uses a combination of letters and numbers to designate firestop systems. The first two letters indicate the structural elements between which a joint is placed. The third letter describes the joint's movement capability, and the numbers identify the size of the joint. Details such as products used are specified individually in each UL listing.

For example, Flammotect joint sealing is UL-classified as follows:



First two letters	Description
FF	Floor to Floor
FW	Floor to Wall
WW	Wall to Wall
HW	Head of Wall
CG	Wall to Wall intended as Corner Guards
BW	Bottom of Wall

Third letter	Description
S	No movement (Static)
D	Dynamic

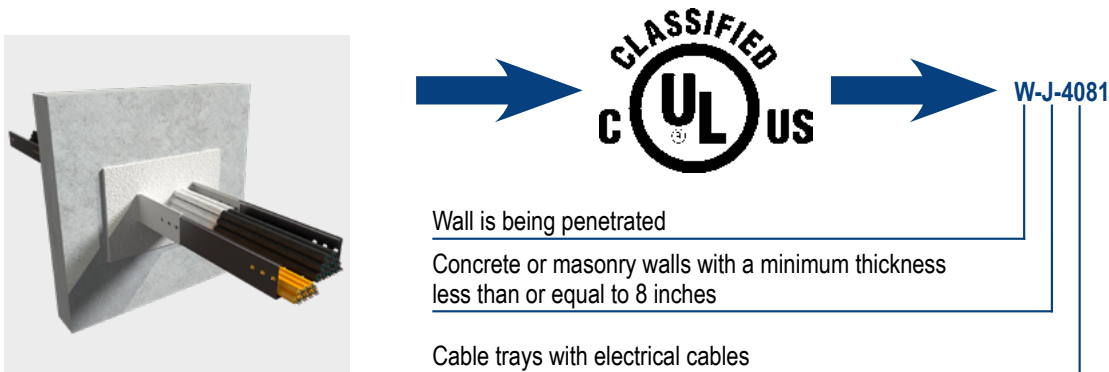
No. Range	Description
0000-0999	Less or equal to 2
1000-1999	Greater than 2 and less or equal to 6
2000-2999	Greater than 6 and less or equal to 12
3000-3999	Greater than 12 and less or equal to 24
4000-4999	Greater than 24

Specifications in inches

# UL Listing No. for penetrations

UL uses a combination of letters and numbers to designate firestop systems. The letters indicate the structural element and the location of the opening (wall/floor). The numbers identify the penetrating items that are routed through the penetration sealing system. With this clearly designed number-and-letter code, all key information can be gleaned at a glance. Details such as maximum pipe diameter, annular gaps, products used, etc. are specified individually in each UL listing.

For example, Novasit BM penetration sealing system for cables is UL-classified as follows:



## Certifications & approvals

Boasting over 50 years of expertise in the in-house development and manufacture of state-of-the-art fire protection products, materials and systems, we are perfectly acquainted with the ins and outs of high-quality design. This is also reflected in our steadily rising number of official certifications and approvals.

Our products and systems are tested and approved in accordance with a large number of cross-industry and industry-specific standards at both national and international level (e.g. UL, FM, EN, BS, Warrington Certifire, or DNV GL). They comply not only with the stringent requirements that are specifically applicable to passive fire protection solutions, but they also meet further requirements: They are resistant to ambient weather, impervious to chemicals, and they are sound-insulated, as has been certified by independent accredited material testing institutes.

### UL Listings

Penetration sealing systems are tested by UL in accordance with the ANSI/UL1479 standard; joint sealings are tested to ANSI/UL2079. These standards set out the appropriate method of testing and define the requirements applicable to sealings for penetrations and joints. A variety of Flamro fire protection sealing systems for cables and pipes have been tested and approved to date. Further testings and certifications for an even wider range of media lines are underway.

**Visit the UL section on our website and use its search function and filter options to find and download the best suitable listings for your specific needs: [flamro.com/ul-astm](https://flamro.com/ul-astm)**

**We look forward to hearing from you!**

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