



# BRENNPUNKT

News from the svt group of companies

## *Central Engineering Department Successfull developments for over 45 years*

### Central Engineering Department

svt's knowledge pool



### Open to the world

svt's international sales



### [www.svt.de/en](http://www.svt.de/en)

Looking at ourselves online...



### Staff training

A good start in new fields



## **IMPRIMATUR**

Brennpunkt is svt's in-house magazine for our company's customers, staff and friends.

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Dear readers and staff,

At the same time, however, growing also means providing for the future and branching out in new directions. svt's Central Engineering Department (ZT) is in charge of developing, approving, producing and advising on how to use svt's products. Restructuring responsibilities within the management and setting up our new industrial applications/OEM division has meant there has been a change of responsibilities at Central Engineering, and I can now hand over the management to my younger colleagues after nine exciting, interesting years.

Production is now entirely Mr. Andree Schober's responsibility, with Mr. Andreas Lüdemann handling the ZT's other work: two young colleagues who have had responsibilities in these areas for years, and who stand for continuity and innovation at the same time.

That leaves me free, once again, to turn to new tasks and apply my nearly 30 years' experience in all areas of passive fire protection to ensuring our new industrial applications/OEM division is a success. I'm looking forward to this task, and with Miriam Odau my PA and chemist now Dr. Marc Ludwig will be there to assist me and our current and future customers with a motivated, experienced team in this field.

I'd like to wish you great pleasure in reading this edition of Brennpunkt, and I can particularly recommend the article on "35 years of mineral fibre penetration sealing systems - PYRO-SAFE cable and combined penetration sealing systems" by Prof. Dr.-Ing. Jürgen Wesche, celebrating a passive fire protection system which incorporates 35 years of fire protection experience.



Reinald Reher

Approved representative svt Brandschutz Vertriebsgesellschaft mbH International  
Head of industrial applications/OEM

Central Engineering Department



**Page 4**

Knowing, planning, implementing – svt's Central Engineering Department (ZT)

**Page 6**

Developing, testing, approving

**Page 9**

svt's fire protection systems



**Page 12**

OEM – Fire protection for industrial applications

**Page 14**

Thirty-five years of mineral fibre penetration sealing systems by Prof. Dr.-Ing. Jürgen Wesche

svt International



**Page 16**

svt International  
Making products and supporting our partners worldwide

**Page 18**

svt International  
Cable coatings and fabrics

You can reach us worldwide - [www.svt.de](http://www.svt.de)



**Page 20**

Looking at ourselves online...  
Informative and easy to use: svt's website

Technical product training for new staff



**Page 22**

Together we are strong  
Staff training

svt project – Taunus Tower Frankfurt am Main



**Page 24**

svt helps protect the Taunus Tower in Frankfurt against fire

## Knowing, developing, implementing – svt's Central Engineering Department



ZT staff, from left to right : Christian Haffner, Sascha Bochert, Stephan Schaper, Reinald Reher, Andreas Lüdemann, Dr. Marc Ludwig, Franz Orzel

As far back as 1977, svt has been involved in developing an effective sealing system to prevent fires spreading and contain the damage in the event of a fire: a fundamental cornerstone which led to us constantly expanding and developing highly effective market-oriented fire protection products and systems.

As time went by, as well as important findings from many practical fire trials, we also came to know increasingly about resolving specific problems. To handle this growing information flow and use it to protect life and property, we founded our Central Engineering Department, or ZT, in 1985.

ZT analyses the data we obtain and puts the results into new developments, product and system updates and customised solutions. As the years passed, our range of products and systems grew and ZT's job with it. Founded as a hotbed of ideas, today, our Central Engineering staff are dealing with a much broader range of tasks.

Ensuring our fire protection products remain at the same high level of quality, developing and monitoring fire testing, working out solutions to problems and answering our customers' technical queries and those of svt services are what the work of this department, now housed at svt's headquarters at Seevetal, is focused on today. For a detailed overview of the ZT's task areas, see p. 8.

We base our development and testing work on statutory and standard requirements, and our existing theoretical and practical knowhow and using our own in-house fire testing systems ensure we find solutions promptly.

Other projects involve testing and/or retesting the fire protection systems involved. This is about knowing and complying with national standards, and with European ones if approved throughout Europe. In this area too, the department with its staff originating from a wide range of areas is ideally suited to its task.

The many different projects involved focus on responsibility for man and the environment, a wide range of uses and ease of installation.

Using high quality raw materials and developing environmentally friendly highly effective products and fire protection systems are the essential foundations of what our company demands of itself, and ZT staff in particular.

If svt's fire protection systems are so versatile and easy to install, that's not a coincidence, but the result of sometimes long term development work and optimisation.

We never apply to have any new or upgraded system approved until it meets all the fundamental requirements and so can be marketed to meet our own and the market's specific quality requirements.

ZT's staff safeguard our high standards of quality, protecting life and property.

### ***Passing on knowledge...***

As makers of highly effective fire protection products, svt knows how important it is to install them professionally. Our fire

protection systems can only work safely and effectively in the event of a fire if they are installed professionally.

One of the not inessential aspects of ZT's work involves training customers, contractors and our own staff, imparting fundamental knowhow required to install passive fire protection measures properly and training them practically in small groups.

Installing systems properly is where fire protection planning comes in. Apart from financial factors, this is also about choosing the right action to take, which is why svt holds technology days and lecture events at regular intervals.

We use these events to tell designers, architects and project managers about innovations and the legal foundations and changing requirements, presenting and discussing fire protection solutions.

ZT provides the speakers and coordinates event contents with svt sales and services.



ZT (chemical production) staff, from left to right: Morten Lutzkat, Andree Schober, Christian Wiglow, Robert Keil, Lars Heckler

## ***Developing, testing, approving***

There are many factors which go into developing a new system, or upgrading an existing one as appropriate.

In the beginning is what the market wants: new wiring materials and new technology, such as in networking information systems, for example, put increasing demands on fire protection.

ZT staff start by considering whether and, if so, existing sealing systems can be extended, provided existing systems are available relatively quickly and can be added on economically.

New developments and upgrades to existing systems must be tested and approved by an accredited body.

By way of preparation, the ZT draws up a test strategy containing the detailed test setup and lays it down in writing. As well as the materials used for making the penetration sealing systems, includes the lines run through (flammable pipes, non-combustible pipes, cables, electrical installation conduits, hydraulic pipes, their layout and fire protection measures (coatings, fire protection wrappings etc.).

The sealing system is then installed in the components proposed (solid walls, floors and light partition walls) in line with the test strategy at the selected test body on site, monitored by ZT staff.

The fire test which follows tests the setup to DIN 4102-9 or European standard EN 1366-3.

The individual aspects we consider are sealing the spaces involved, installation temperatures rising and sealing surfaces, how the materials used behave and how effective they are. The fire tests indicate what fire resistance class the sealing falls under in terms of the coating. The results are incorporated when applying for it to be approved.

We work closely with national and international sales to decide what scope we should apply to have approved.

When it comes to getting new products approved, we look to the future, applying for European approval or ETA (European Technical Assessment) and national approvals based on them if required.

This phase of the project is relatively slow-moving, as European approval conditions are currently being revised in many respects.

One example of our outstanding development services is our PYRO-SAFE CT Cable Tube, an easily fitted cable sealing system, which we launched recently.



The cable tube consists essentially of two tube half-shells with an inner lining of an intumescent fire protection fabric, which is easy to use on a first fit or retrofit basis: a brilliant innovative development which won FeuerTRUTZ magazine readers' prize as product of the year 2014.



We'd like to use this innovative fire protection system as an example to show our readers how complex development can be.



## *The road is long...*

Before we start developing any new fire protection system, as well as considering how useful it is, we also need to think about what the market wants.

With the cable tube, the underlying idea was to design an easy to install system to meet the fire safety demands of cable penetration sealing systems.

As well as using it as a reserve partition (a penetration sealing system with no services) which can be easily retrofit if needed we focused mainly on fitting penetration sealing systems to existing cable configurations. The system had to be simple and quick to install, given that cables are sometimes laid randomly in existing buildings.

We found a solution relatively quickly, which is how the idea of the PYRO-SAFE CT cable tube came about. Once we had established the basic design, the next step was to find the right materials and suppliers.

The next thing ZT staff had to do was to test all the established demands on the new system. Apart from establishing the simple design and occupying 100% of the whole cross-section of the tube with cables, cable bundles and electrical installation conduits, they needed to determine its fire resistance time. The tests culminated in fire tests for the test reports with accredited bodies which would be used as the basis for applying for approval.

The results of these tests laid the foundations for the approval we applied for once we had the test and classification reports under our belt.

Our Cable Tube received European technical approval and was rated as an emission-rated product which it needed to have to be used in Germany at that time.

True to our company's philosophy, 'protect your values', we took the time to present a safer mature fire protection system.

That was time well spent!

The svt group of companies claims it offers our customers fire protection systems with an extensive practical range of applications: so, since we launched it last year, we have been preparing and conducting further tests on how the PYRO-SAFE CT cable tube can be occupied. The favourable results obtained from these further tests to date have been incorporated in the proof of usability for the PYRO-SAFE CT system.

## *Principles of fire protection*

Any fire protection system must be based on highly effective products, which is why we at svt started developing and making our own fire protection products as far back as 1977.

It seemed obvious to incorporate production with all its areas in our ZT when we set it up in 1985, enabling us to use the extensive knowhow we had built up over time in developing and improving our fire protection products to best effect. As our success in the market and loyal customers confirm.

The products svt develops can be divided roughly into intumescent and ablative products and fire protection mortar.

We test the formulae we use to make sure they work and are environmentally compatible, and can customise them to suit individual requirements if required.

As a QM and SCCP certified company, it goes without saying that svt monitors its production chain and products, and has them monitored by third parties too.

ZT ensures that we maintain the same high quality levels at all stages of production, from selecting and testing the raw materials we use carefully through checking production seamlessly to taking samples from every batch we make.

Having ZT staff work closely with colleagues from chemistry, development and production is inherent in how svt works, and helps foster innovation.



# Our Central Engineering Department's fields at a glance



## Research

- Research into specific materials
- Product formulae fire response



## Development

- Developing and adapting products
- Developing and extending systems
- Developing products in the field of industrial fire protection solutions



## Approval applications

- Drawing up testing strategies
- Setting up test setups with accredited bodies
- Accompanying fire tests
- Applying for approvals



## Production

- Making products to specified formulae
- Warehousing/logistics
- Supply



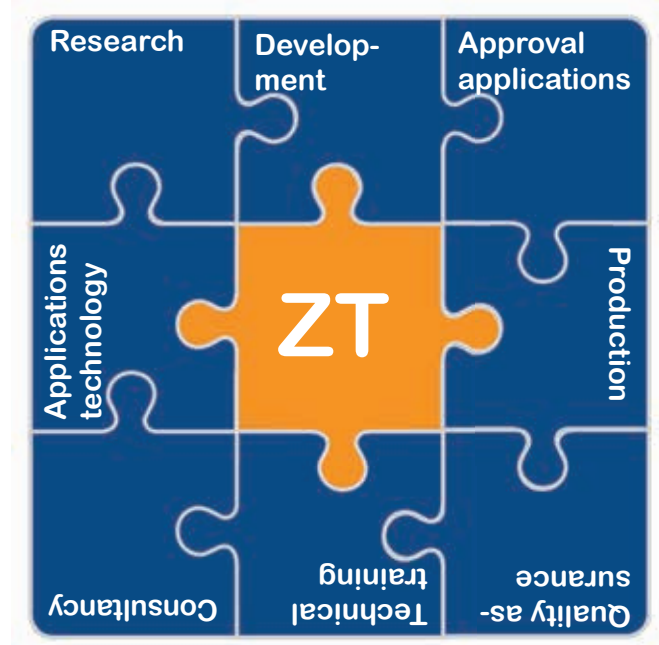
## Quality assurance

- Checking raw materials received
- Monitoring the production process
- Product testing



## Technical consultancy

- Providing technical support to partners and customers
- Providing technical support to svt establishments, b.i.o. BRANDSCHUTZ GmbH



## Training

- Product training
- System training
- Technical training for staff
- Technical training for external partners



## Applications technology

The area of application technology provides practical training in the approval compliant processing of svt fire protection products. That provides a smooth construction process

# Sophisticated type sought for new application!

## svt's fire protection systems



Fire protection systems stop fire spreading effectively, sealing wall or floor openings to protect against fire getting through, with a wide range of cables and pipes running through, separating fire sections effectively, for example. In the event of a fire, sealing systems prevent smoke getting through and fire flashing over into adjacent premises.

Fire protection systems are made up of one or more fire protection products which are specifically designed to cover a broad range of applications to suit the innumerable range of cables and pipes involved.

Plastic pipes melt in case of fire so they need a product that seals the resulting opening. With metal pipes, the emphasis is on preventing heat from being conducted.

Fire protection products are tested to see how they behave in the event of a fire, and are classified as construction materials to DIN 4102-1 or by fire response category under EN 13501-1. This rating indicates how combustible they are, and decides whether they are flammable or non-combustible.

Combustible is also subdivided into flame-resistant and highly combustible.

This characteristic says nothing about how products will behave when used as fire protection penetration sealing system for cable and pipe penetrations. If we test how they react, the products become a system.

As a producer of fire protection products, svt has many years' experience, and uses its extensive knowledge to develop svt's highly effective, versatile systems, aimed at developing and testing versatile, highly-effective fire protection systems which are both financially viable and easy to use, testing them and having them approved to DIN 4102-9/ EN 13501-2.

The individual aspects of our systems are hard for designers who do know little about fire protection: so, by way of examination, we'd like to present you with some typical fire protection measures on a range of different lines on the pages which follow, using two different systems.

# All-rounder...

## PYRO-SAFE Novasit COMBI 90, fire resistance class S 90 to DIN 4102-9

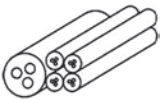



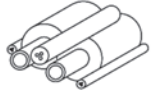


Our PYRO-SAFE Novasit COMBI 90 is an exceptionally versatile system, what is known as a mortar sealing to be fitted to solid walls and floors.

PYRO-SAFE Novasit COMBI 90 can be used to seal wall and floor openings with a wide range of extremely varied pipe and cable penetrations.

System parameters and some line parameters with the measures to be used individually:

Arrangement	Component thickness [mm]	Sealing thickness [mm]	Sealing width [mm]	Sealing height/length [mm]
Wall	≥ 100	≥ 150	≤ 1000	≤ 2000
or			≤ 2000	≤ 1000
Floor	≥ 150	≥ 150	≤ 1000	∞

Line type	Fire protection measures (extract)	Notes
 Electrical cables and wires of all kinds (including fibre optic cables), cable bundles	None	<p><b><i>This table shows only the most commonly used setups. Individual measures depend on the materials used and pipe diameter. For more details of our PYRO-SAFE Novasit COMBI 90 fire protection system (dimensions, distances), see our website at <a href="http://www.svt.de">www.svt.de</a></i></b></p>
 Electrical installation conduits (EITs)	Sections isolated with mineral fibre mats	
 Combustible pipes	On-wall sleeves	
 Non-combustible pipes with sections insulated with synthetic rubber	PYRO-SAFE DG-CR 1.5 fire protection wrapping plus additional insulation with mineral fibre mats if required	
 Climasplit installation combinations	PYRO-SAFE DG-CR 1.5 fire protection wrap	

# The European...

## PYRO-SAFE Flammotect double layer, fire resistance class up to EI 120 to EN 13501-2

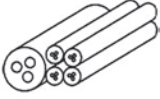



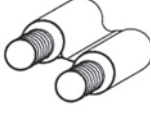


With its double layer design, PYRO-SAFE Flammotect is a highly versatile sealing system, which can be used in solid walls and floors, and in lightweight partition walls.

This design can be used as a sealing for many different kinds of line.

System parameters and some line parameters with the measures to be used individually:

Arrangement	Component thickness [mm]	Sealing thickness [mm]	Sealing width [mm]	Sealing height/length [mm]
Wall	≥ 100	≥ 120	1250	1200
Floor	≥ 150	≥ 150		

Line type	Fire protection measures (extract)	Notes
 Electrical cables and wires of all kinds (including fibre optic cables), cable bundles	PYRO-SAFE Flammotect-A fire protection coating or PYRO-SAFE DG-CR 1.5 fire protection wrap	<p><b><i>This table shows only the most commonly used setups. Individual measures depend on the materials used and pipe diameter. For more details of our PYRO-SAFE Flammotect double layer fire protection system (further coatings, dimensions, distances), see our website at <a href="http://www.svt.de">www.svt.de</a></i></b></p>
 Electrical installation conduits (EITs)	PYRO-SAFE DG-CR 1.5 fire protection wrap	
 Combustible pipes	PYRO-SAFE DG-CR 1.5 fire protection wrap	
 Non-combustible pipes with sections insulated with synthetic rubber	PYRO-SAFE DG-CR 1.5 fire protection wrap plus mineral fibre matting for extra insulation if required	
 NanoSun <sup>2</sup> solar twin tubes	PYRO-SAFE DG-CR 1.5 fire protection wrap	

# Industrial applications/OEMs\* at svt

## Passive fire protection for industrial applications

For some years now, svt's Central Engineering Department staff have been looking at fire protection issues outside passive fire protection, and have now set up a separate unit to handle these applications.

This unit also serves our present and future OEM customers, by which we mean customers who use svt's products to make their own products comply with fire protection requirements. These can be both construction products, like fire doors, which serve to protect buildings against fires, but also products like rail vehicles and aircraft.

This is where svt scores, with our experienced Central Engineering Department staff and our own in-house fire testing unit and flexible formula and product design, using guideline fire tests to develop products tailored precisely to what our customers need, working with those customers and getting them ready to market.

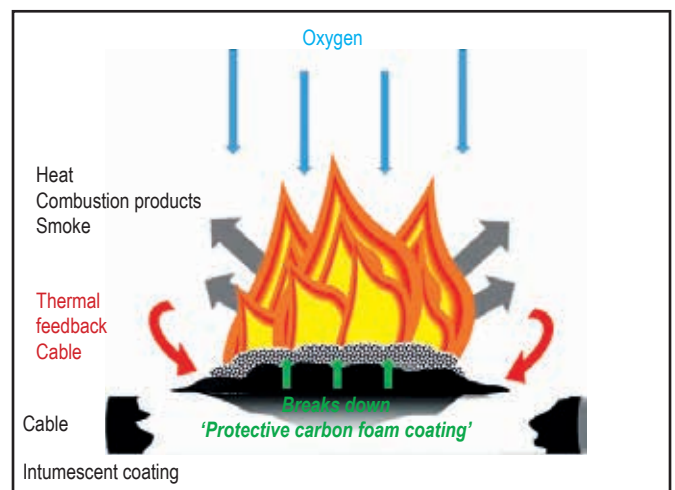
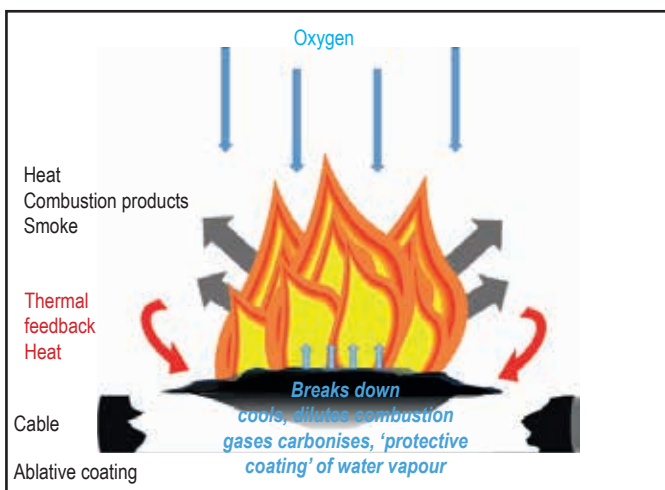
Above all, our PYRO-SAFE DG coated fire protection fabrics we have developed with solvent-free expanding graphite-based intumescent coating offer a broad range of applications for industrial uses. This intumescent coating, which is made as an aqueous dispersion, stands out for its ultra-rapid foam response at temperatures of 150 °C and above, and is approved both for use in humid environments and outdoors.

The basic formula for this intumescent coating, in a version developed specifically to meet the demands of the AIRBUS A 380, was the starting point for dealing more intensively with industrial applications. We now have a whole range of formulae options protecting the aluminium underbodies of a new METRO line for Singapore, local transport vehicles for London and the new trains used in Russia that were first employed at Olympia against being burned through from outside; and the ICE 3, ICX and French TGV now include problem solutions based on svt's PYRO-SAFE DG intumescent coating.

### Cooling or foaming up

#### How fire protection coatings work

In passive fire protection, we distinguish between ablative and intumescent fire protection coatings. Ablative coatings cool the materials they are applied to in the event of a fire, while intumescent coatings, foam up to form an insulating layer. Intumescent coatings in turn break down into whether they foam up with or without expansion pressure. If a fire arises, the latter foam up at such high pressure that they seal off the openings in melting plastic tubes in components and so stop fire and smoke getting through.



### ***Ablative fire protective coating***

Ablative coatings cool by releasing chemically bound water. If there is a fire, this coating breaks down, releasing water, from around 200 °C, cooling the surface of the material and diluting the concentration of flammable gases. Chemists call this an endothermic reaction: in other words, it absorbs energy from outside. This reduces the fire's effect on the coated material at the same time; and, once the chemical processes have finished, the coating components also form an inorganic micro-porous protective coating which also protects the service by insulating it thermally.

### ***Conventional intumescent coating***

Conventional intumescent coatings are coatings which foam up to 100 x their original volume thickness without any significant pressure being required under the influence of heat, forming a light, fine-pore carbon foam, the insulating layer. Because of its highly insulating effect, they are used mainly in structural steelwork, coating cables to prevent them spreading fire or sealing the surface of mineral wool penetration sealing systems.

One-part water-based intumescent coatings can only be used in dry indoor areas without additional measures being required, however.

### ***Expanding graphite-based intumescent coatings***

Expanding graphite-based intumescent coatings differ from conventional intumescent coatings in two essential respects. First, they need a high expansion pressure to foam up, enabling them to seal annular spaces and joints created by fire playing on melting building materials and openings which form by materials in fire sealing components melting or burning away. Second, they foam up at much lower temperatures than conventional intumescent coatings, which means they can also be used with plastics which generally start softening, melting or thermally decomposing at temperatures at which the intumescent coating responds.

svt's PYRO-SAFE DG intumescent coating can also be used in areas which are permanently humid and even used outdoors, which means it can be used for a much broader range of applications in preventive passive fire protection.

Graphite is a naturally occurring crystalline form of carbon; and inserting certain chemical compounds between the layers of carbon gives expanding graphite. On reaching their reaction temperature, these layers are literally blown apart, increasing the volume of the graphite particles many times over explosively, giving a network of carbon atoms of blown graphite. Other ingredients of the intumescent coating glue this foam together to form a protective insulating layer. This puts the

materials coated in a better flammability class, increases their fire resistance time and forms an effective sealing to stop fire and smoke getting through.

## **Info**

### **How fire protection coatings work**

#### **Ablative (separating)**

Works by:

Releasing water tied up in compounds  
Cooling and creating a protective coating (vapour)

#### **Materials**

Ablative fire protection fillers use

- Metal hydroxides
- Plaster etc.

Specific parameters include such things as

- Reaction temperature

#### **Intumescent (swelling)**

Works by:

Using a chemical reaction to form an insulating layer  
(protective coating)

(foaming, network of carbon atoms)

#### **Materials**

- Aqueous dispersion of organic and inorganic active agents
- Expanding graphite

Specific parameters include such things as

- Reaction temperature
- Expansion rate

# 35 years of mineral fibre penetration sealing systems – PYRO-SAFE cable and combi penetration sealing systems

By Prof. Dr.-Ing. Jürgen Wesche

## **Technical building systems in building works and thoughts on implementation**

Technical building systems in buildings have become increasingly important over the years. Until the post-war years (around 1965), there weren't many cables in buildings, people hadn't thought too much about fire protection risks and merely filled in what openings there were. But as designers and users became increasingly demanding about supplying buildings, building equipment became more important, and the building sections which formed the fire sections came to have more and more openings for cables and pipes running through them and the number of media they carried became increasingly complex.

### **Developing cable penetration sealing systems**

Despite the lack of building regulations, the industry began realising in the early 1970s that, as buildings came to have more systems installed in them, something had to be done to reduce the risk of fire carrying over enclosing components. With svt, which was still trading as System- und Verfahrenstechnik GmbH & Co KG at the time, it was mainly our experience from our main field of activity, fire damage clearances, which led us to realise this. Alongside our conventional systems like mortaring and concrete sealing, we took a completely new path, developing a system of mineral fibre products bound together with an arrangement of insulating layer coatings which was relatively easy to install and was even easy to install retrospectively. As one of the first systems of its kind, our Pyro-Safe sealing system was approved under no. Z-19.15-21 in 1979. This system is still on the market, duly approved, today, upgraded accordingly, of course.

As there had not been any standards for testing such sealing systems until then, we worked with the materials testing institutions to develop test procedures which showed that fire could not spread over fire compartments.

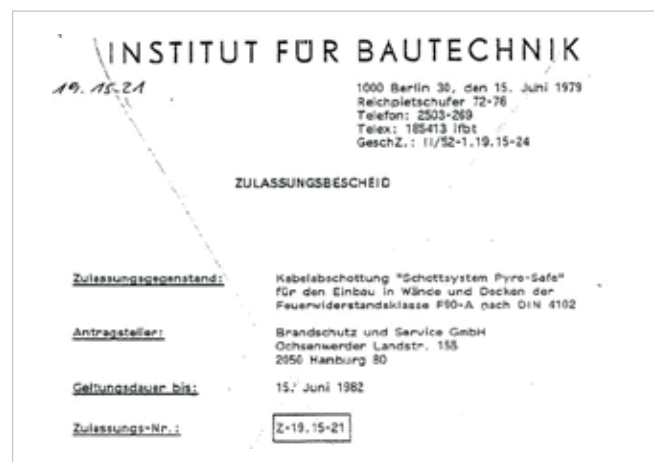
### **Evidential procedures for building regulation purposes for cable bushings**

Under Federal State building regulations, cable penetration sealing systems were classified as a 'new type of construction', and so had to be approved. In 1975/1978, the expert committee on fire behaviour of building components of the Institut für Bautechnik (IfBt) drew up 'test guidelines for penetration sealing systems for cable penetrations' and 'guidelines for penetration sealing systems for pipe penetrations made entirely of flammable building materials' based on the first test experience gained.

The first approvals based on these guidelines were issued in 1978. svt's Pyro-Safe sealing system was approved (no. Z-19.15-21) in June 1979, and is still on the market today after 35 successful years.

### **Mineral fibre panel penetration sealing systems**

All mineral fibre panel penetration sealing systems are built much the same way. The major advantage with these is that they can be fitted to even complex cable and line transits and retrofitted also at no great expense.



Section from the cover page of svt's first approval for a mineral fibre approval

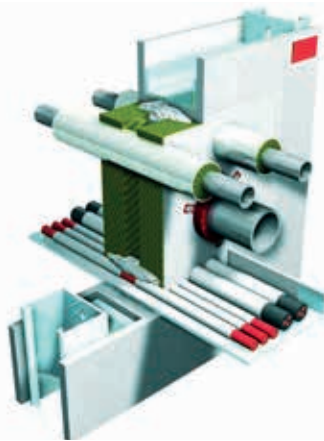
The 1979 approval covered:

- Fitting to solid building sections, walls  $d \geq 24$  cm, floors  $d \geq 17.5$  cm
- Maximum dimensions  $h/w \leq 40$  cm/70 cm
- Working space 10 cm all round
- PVC cables only approved
- Steel construction cable trays



The background conditions tested and approved today are much broader in scope:

- Installed in solid walls  $d \geq 12,5$  cm, in light partition walls  $d \geq 10$  cm and floors  $d \geq 15$  cm
- Maximum dimensions  $h/w = 250$  cm/100 cm for walls and for floors  $l/w =$  as desired/100 cm
- The installations may be laid on lower soffits
- Any cable types except waveguide cables
- Cable trays of steel, aluminium and plastic



The same type of sealing was also approved under another approval no. (Z-19.15-1276) as a combi sealing with somewhat modified background conditions - PYRO-SAFE Universal sealing COMBI S 90

### Fire response

Although it has been said that mineral fibre penetration sealing systems have encountered problems in practice, as they are merely made of relatively 'soft' products, of course, in the 35 years in which they have been intensively used, fire damage in buildings has shown that mineral fibre penetration sealing systems keep space intact and a fire spread through the penetration sealing systems could be prevented. The author is not aware of any adverse reports.

### Used in practice

Even in the future, mineral fibre penetration sealing systems like svt's PYRO-SAFE system will continue to be used in con-

nection with installations through space enclosing components. The contractors must implement as many of the background conditions of the proofs of usefulness as is possible.

As there are a very large number of properties in which this cannot be done, however, because mistakes were made in construction before the penetration sealing systems were applied, it is the contractors' responsibility to work with the proof holder to show why the variations from the proof of usefulness do not affect their behaviour under fire and the variation may be regarded as 'insignificant' within the meaning of MBO § 22 (1). Thanks to svt's Central Engineering Department's extensive test experience in the past, often working with the accredited test body itself which conducted the fire tests required for approval, we obtained favourable ratings.

As there are no precise instructions as to when a variation is 'insignificant', and even the property monitors have very varied views and different detail findings, the market is becoming increasingly uncertain. This will presumably be exacerbated if the Construction Product Regulations (CPR) are used as the basis for producing European proofs which say nothing about variations: so it will be absolutely necessary for the contractors in particular to be put in a position in which they can show plausible verifiable proof that the variations do not affect the sealing's performance.

### Prospects

In conclusion, we can safely say that svt's PYRO-SAFE sealing systems based on mineral fibre panels and intumescent coatings or ablative coatings are as flexible and reliable today as they were when they were first made 35 years ago. There cannot be any objections to using them in penetration sealing systems for building technical systems in all areas of passive fire protection.



Prof. Dr.-Ing. Jürgen Wesche, born 1941, studied building engineering at TU Brunswick, MPA Brunswick since 1970, 1987 – 2006 Head of fire protection department, until 2010 honorary professor at TU Brunswick, incl. chairman of DIN 4102-2 and mirror CEN TC 127 (NaBau 00.34.02) Developing European standards for cable penetration sealing systems, until 2010 member and chairman of various SVA at the DIBt and member of the PG fire protection of the professional committee building regulation, MBO 2002 and MLAR 2005, now a consultant fire protection engineer and much sought after speaker living in Leverkusen.

## Open to the world - svt International



Having decided there was no reason why we should restrict ourselves to supplying our highly effective fire protection products to the German market, we opened an international trading division in 1978. Like any successful company, svt has grown into the role of a global player. The first challenge of the international market were the many, and widely differing, standards and laws of the different countries involved: a task we still master today with our courage to be innovative and professional competence.

### **Staff + products = success**

svt fire protection's international sales company contacted companies which already had their own sales and service departments or both in each country.

Soon, the first companies were convinced of the quality and good handling of svt's product range, which led to international sales taking off, followed by other companies from a wide range of countries, forming long-term business relations with partners worldwide.

One particular highlight was when we founded SVT-ROSSIA at Protvino near Moscow in 1997, endowing this location with its own production facilities as demand for svt's fire protection products increased. Another outstanding event was when svt Polska Sp. z o.o. in Bielsko-Biala opened in 2011.

As well as svt's two companies in Russia and Poland, svt now has more than 40 companies as partners in 36 countries.

It's definitely not just the outstanding characteristics of our fire protection products which have made svt so successful on the international market, but also in particular the personal commitment and support of our staff. This outstanding support is particularly appreciated by our international companies. As well as offering technical training, when it comes to applications technology, we also have supervisors available to instruct operatives, ensuring svt's products are used smoothly and in accordance with approval conditions. And svt's partners also find there is other support they can count on, such as providing technical documents and brochures, system and product images, fire test videos and complete catalogues with in-depth information.

If you have your own corporate design framework, you can also ask for content-only or 'open' files. Our international sales team will be happy to help our partners here too.

## Open to new ideas

On the wings of our success, we will soon be expanding our international sales side even further, not limiting ourselves by any means to countries in which we already have long-term contacts.

We welcome enquiries from all over the world, and will deal with them via our competent staff. The svt group of companies is open to new international sales partners. Our team will be happy to advise you on everything to do with svt fire protection products and systems and potential contacts and support services. At svt, we take tasks based on specific national conditions or customer's specific wishes and resolve them on an interdisciplinary basis, ensuring a relatively short response time and delivering the ideal results. We can also adapt our existing products and systems and develop new ones in the field of passive fire protection working with the customer. Thanks to working closely with svt's OEM sales, the same applies to passive fire protection in the industrial applications segment (see page 12).

## Great moments

svt may be reaching for the stars, but we never forget to keep our feet on the ground. svt was quick to realise the opportunities the European market presents and is pushing ahead with selling our fire protection products in the EU.



Applying for European approvals (European Technical Assessments, or ETAs) is now standard as far as svt is concerned, so our partners in the EU can sell and fit svt's fire protection products and systems in their own countries without any great expense.

For svt, support, individual solutions and supporting our customers from different cultures personally go without saying.

## Made in Germany

The quality of svt's highly effective fire protection products is no coincidence.

To ensure they remain at a constant high level of quality, svt makes them itself at our own third-party monitored plant at our headquarters at Seevetal.



Building our plant close to our headquarters and hence close to our Central Engineering Department (ZT) was something we chose to do deliberately, so we can take and implement decisions fast if we need to.

Also, as well as being third-party monitored, our ZT staff ensure our production chain is monitored seamlessly at all times. Another advantage of making our products ourselves is that we can be extremely flexible in giving customers what they want, precisely in terms of delivery times, optimising our management and planning to ensure a continuous supply.

## PYRO-SAFE®

You can recognise svt's fire protection products easily by our protected trademark PYRO-SAFE®. This stands for safety and effectiveness, for ease of use and other potential applications in passive fire protection and industrial applications. svt's products are hugely popular at the German market

Their outstanding characteristics mean they are also appreciated and used successfully in our different markets around the globe, thanks above all to the excellent collaboration between our partners and international sales team. Other markets will follow, through conviction, confidence and, of course, our outstanding products.

### **protect your values**

svt's staff are often asked why we need passive fire protection, how it works and how safe it is, and not just at international level either, often because someone is planning to invest in this field.

The statistics show why fire protection is so important. Every minute, somewhere in the world, a fire breaks out in commercial, private use or industrial buildings or plant, often killing or injuring people. And, apart from being a personal tragedy, a fire normally puts enormous financial stresses to everyone involved.

Passive fire protection can't stop a fire starting, but what it can do is keep that fire within a defined area (fire section) and ensure escape and rescue routes remain open for a specified period.

Using fire protection penetration sealing systems to create fire sections prevents smoke getting through and fire flashing over, keeping the fire within a specific area.

One area in which fire can spread rapidly and uncontrollably is cable systems. Cables are something you find everywhere in buildings, as utility lines, control lines, communications circuits and so on. If they short out, this creates an enormous amount of heat which can be enough to set the cable concerned around a fire.

Because of the way the cables are laid out and the fact that the insulation is combustible, the fire spreads quickly over wide areas. One effective fire protection measure is to coat cables or wrap them with fire protective fabric.

A relatively simple measure, but one which can save lives and property.

### **Fire and Foam**

Let's stay with our example of cable systems. On the fire protection measures we mentioned, we'd like to present our readers with two of svt's products: on the one hand, our ablative PYRO-SAFE FLAMMOTECT-A coating, and on the other, our

PYRO-SAFE DG-CR intumescent fire protective fabric. These products are not particularly exciting in themselves, nor will just showing you a picture tell you much at all: so we'd like to show our readers how they work effectively using a photo-story about a fire test we conduct as part of our regular svt training events.



The protagonists are convincing, and impressively so:

Unprotected cable catches fire relatively quickly, as the insulation provides enough material to keep the fire going without burners. As the cables melt, they slip out of the cable run and burn away completely.

Our PYRO-SAFE DG-CR bandage comprises a substrate and an intumescent expansion graphite-based coating. Under the heat of the flame, there forms a foaming network of carbon atoms which insulate the cable and protect it. While exposed to flames, minor fire tracks form on the carrier material, which are limited to the areas the flame affects directly.

When coating with PYRO-SAFE FLAMMOTECT-A, you can see if there is a reaction relatively quickly. Like the fire pro-

tection bandage, this prevents the fire spreading successfully. After the fire test, that is, once the material has been exposed to flames for 60 minutes, for example, we look to see how it has affected the fire protection products and cable.



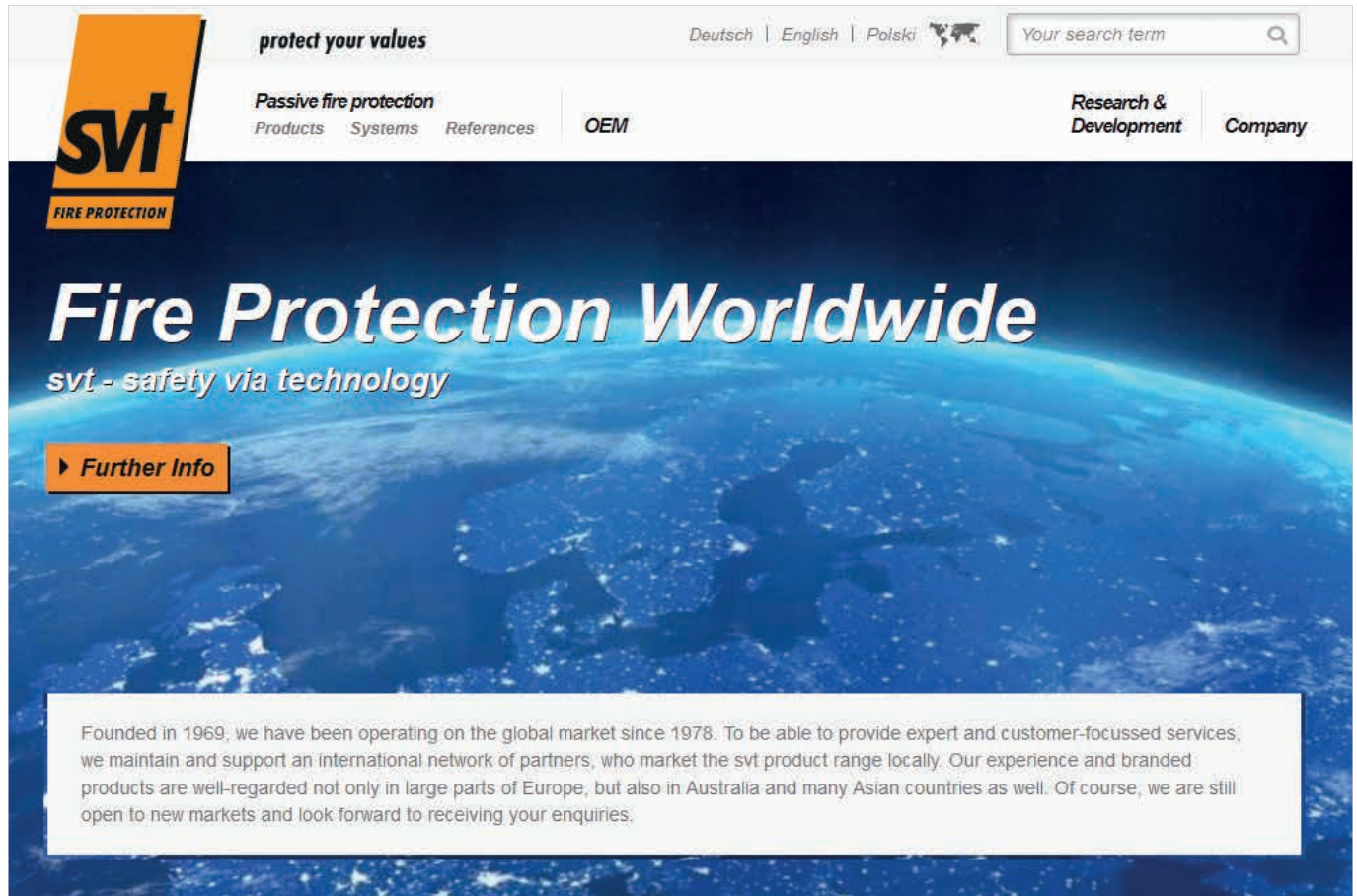
Both coating and bandage have responded as we said above. With PYRO-SAFE DG-CR, you can't actually see how it works, that is, the foamed up network of carbon atoms, until you open the bandage.

Either way, the fire was contained.



## Looking at ourselves online...

www.svt.de/en/



The svt group of company's redesigned website has been up and running since January this year. It is broken down clearly into our individual company areas, telling people about news and career opportunities.

All svt's fire protection products and systems, technical information, safety datasheets and much more: it's all there, clearly structured for visitors online.

*In brief: an informative website in a refreshing young design.*

Our redesigned international area offers visitors not just a broad range of information on svt's fire protection systems and products, it also introduces svt's OEM division and our own research and development work.

Under the References option, visitors to svt's international website can see an overview of some national and international projects we have successfully concluded. As well as what each project involved, interested visitors can discover what fire protection measures were used. Many of our international projects were handled jointly with our partner companies.

Under the Company option, you'll find news from the svt group of companies, contact details and an overview of svt's international clients and a link to the easy to follow download area.

The Products and Systems options do what they say: here you'll find all the essential details on svt's fire protection range. The selection is massive, but you can use filters to narrow it down.

## Many ways, one goal

We've designed our website deliberately to meet the wide range of what visitors want from it.

You can also find all the files which are combined in the download area on the corresponding content pages as well.

So svt's website offers many possibilities to individual browsers.

## svt: close to the customer

We've all been there, haven't we? It's getting dark outside, but we still have a job to finish. It's precisely at times like these that you find you need to know something specific about a specific fire protection system; but who are you going to call at this time of night? On the other hand, you might also be able to find the answer with the aid of further information, as can be found in installation instructions or technical product and/or system information.

So how good is it that svt has set up its easy to follow download area? It combines all the important information you might need, which you can download individually or in packs around the clock.

## Product and system information

This area contains technical information about our individual products and systems in clearly structured form, from technical datasheets and selected installation instructions through to safety datasheets for our individual fire protection products. You can download these files individually or put together as packs.

## Print media & certificates

Here you'll find general information about the international side of the svt group of companies and useful things to know about our OEM products. All our current prospectuses, flyers and brochures are here for our customers and partners to download. Or alternatively, of course, you can get all these in hard copy form from our international sales division.

With the download area, svt has given our customers a starting point, providing all essential, informative files around the clock.

**protect your values**    Deutsch | English | Polski    Your search term

**svt** FIRE PROTECTION

Passive fire protection    OEM    Research & Development    Company

Products    Systems    References

You are here: [Home](#) // Downloads

# Downloads

## Downloads

By clicking on one of the elements you can download the file separately.  
For a compilation of downloads please mark the files and click on the "Download selection" button.

### Fire Protection Products

- Product information
- Safety Data Sheets

### Fire Protection Systems

## Together we are strong

### Staff training



As a medium-sized company with over 300 staff in 22 locations, we need to work together well, know our subject inside out and communicate seamlessly. These are responsibilities svt is keen to meet, which is why we hold training events tailored to suit the needs of our individual departments each year, from training for new staff, where our new colleagues can find out about more how we work at svt and our products and systems through to special technical training covering specific technical principles and innovations in fire protection and cleanup.

Our seminars aren't just informative, they also help us get to know one another better and strengthen our personal abilities: which is why one important element is the evening event together at the mostly two-day events.

#### *The more you know, the more you trust*

We'd like to introduce our readers briefly to our technical product training for new staff.

This year's last two-day seminar was held on 13/14 August. All our new staff responded to our Central Engineering Department's invitation, and met at svt's headquarters at Seevetal around midday. Our group director opened the session by welcoming the visitors, and staff and speakers then mingled in a relaxed atmosphere. Most of our new colleagues are graduates who are new to passive fire protection.

There were presentations on, amongst other things, the basic legal requirements involved, technical details of svt's fire protection products and systems and special case penetration sealing systems. Combining theory and practice helps new staff and extends their knowledge deliberately.

In the in-depth theoretical section which followed, we discussed our experience and their new impressions with the delegates, reinforcing the content conveyed.

There were a number of breaks, of course, to strengthen and 'digest' the content conveyed, for many delegates, an opportunity for a lively exchange of experience.



Having refreshed our visitors, we then moved on, presenting them with svt's product range, looking at the different characteristics and potential applications of svt's different systems. Having presented our products in theoretical terms, we then backed this up with a guided tour of our Production department, which is based at Seevetal, letting our new staff get an idea of our impressive production equipment, filling and our stores. Our speakers answered questions as they arose, with some of the answers coming from amongst the delegates themselves, if only in outline, indicative of the quality of our training and the commitment of our new staff.

Day two was set aside mostly for practical training sessions, where our new colleagues were instructed to make a soft seal using our PYRO-SAFE DG cable bandage and in particular to find the deliberate mistakes we'd put into laying the penetration

seal system, supported by our ZT staff, of course, and being introduced to the subject step by step, discussing working procedures and deviations. So the outcome was all good, considering above all that this was the first time some of the students had assembled a fire protection sealing in their lives. At the closing session, everyone had an opportunity to ask questions and clear up anything they were not quite sure about. All in all, this technical product training was, once again, a total success, as the assessment sheets the delegates completed showed.

With the knowhow imparted, our new svt colleagues have the certainty and confidence they need to meet the challenges in passive fire protection each day brings.

We at svt would like to take this opportunity to thank our staff for their conscientious work and commitment, day in, day out.





## svt project - Taunus Tower Frankfurt am Main

The Taunus Tower is a new building at the heart of Frankfurt's banking district, 40 floors and 170 m high, offering around 1,500 m<sup>2</sup> of office space per floor, or around 60,000 m<sup>2</sup> in all. It has restaurant and catering facilities on the ground floor, and a lunch restaurant for staff and visitors on the first floor, and a Business Club, with conference facilities and terrace, on the 38th floor.

The Museum of Modern Art (MMK) has been given 2,000 m<sup>2</sup> of exhibition space in the Taunus Tower. The project includes a second high-rise building 63 m, intended mainly for residential use; both buildings were built speculatively, i.e. not pre-let.

Construction on the Taunus Tower began in April 2011, the foundation stone was laid in January 2012 and the topping out ceremony held in April 2013. The building was scheduled to be completed officially on 28 February 2014.

svt Brandschutz GmbH's Eppertshausen branch has been fitting out the Taunus Tower with fire protection sealing systems and panel cladding since February 2013, using mainly combination penetration sealing systems PYRO-SAFE Flammotect COMBI 90 and PYRO-SAFE Novasit COMBI 90 and fitting cable duct cladding. svt had five staff on the job initially, or up to 10 staff at peak times.

One particular aspect of working on this project is that Ed. Züblin AG, the client, wanted to produce the documentation for

the work done via a special web-based portal, which was a first both for them and for us.



This cloud solution aimed at the requirements involved in construction, engineering, industrial and plant construction, made it much easier for all the contractors involved in the project to work together.

This 'digital file' records everything which was done, with photographs; and svt was of course happy to meet this wish.

