



CONSTRUCTION SOLUTIONS FOR SEMICONDUCTOR FABs

FLOORING, FIRE STOPPING,
SEALING & BONDING

SAFETY AND DURABILITY FOR SEMICONDUCTOR FABRICATION PLANTS

As an architect, contractor or developer for manufacturing environments in semiconductor manufacturing facilities, or fabs, the project must meet the requirements and specifications of the customer, as well as the state-of-the-art standards and norms.

Tremco CPG Europe can support you with professional, high performance and easy to apply holistic solutions such as resin flooring, sealing and bonding, fire protection and much more that are designed to meet the challenging requirements of highly specialised fabs. Characteristics such as the rigorous control of air quality, temperature, humidity and pressure, as well as stringent requirements for low levels of airborne particles can be factored in with such recommended solutions.

As well as your project benefiting from our deep know-how in building physics and decades of experience from countless projects, as a manufacturer we will support you from concept design through to application.



Cleanroom-Certified Materials

Full range of solutions tested by Fraunhofer IPA.



Electro-Static Discharge

Flooring systems to safely ground or dissipate the build-up of electro-static charge.



Fire-protected Cable Management

Fire Stopping products prevent the spread of flames, heat and smoke.



Optimizing the Life Cycle Assessment

Transparent Environmental Product Declarations (EPDs) to select the most sustainable option.

A family of construction product solutions under one roof



Sealing, Bonding & Insulation



Waterproofing & Roofing



Flooring



Insulated Concrete Foamwork (ICF)



Passive Fire Protection



External Insulation & Finishing Systems (EIFS)



Concrete Repair & Waterproofing

OUR SOLUTIONS

Flooring

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Structural Waterproofing

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HVAC Sealing & Bonding

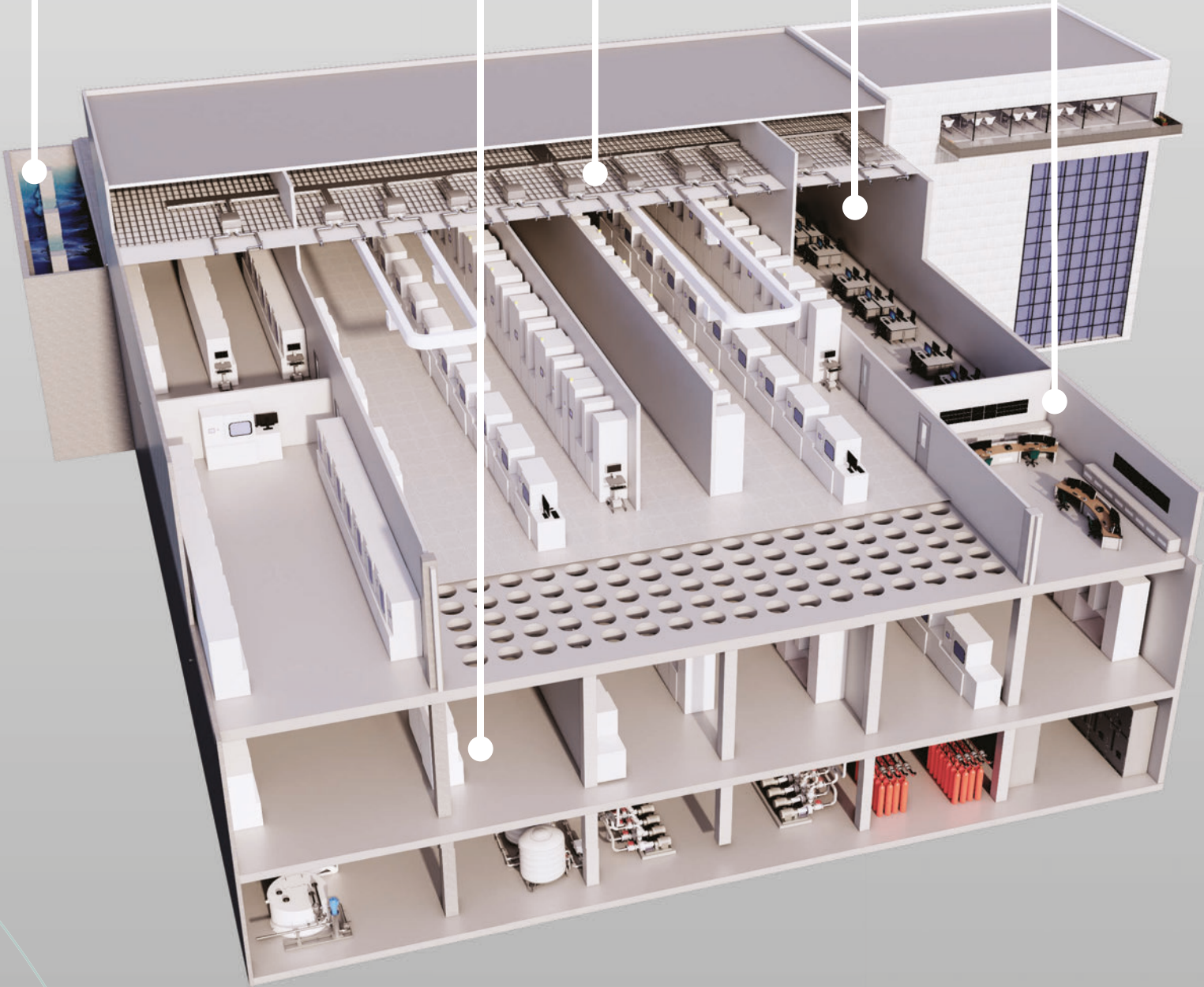
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Flexible Sealing & Bonding

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Fire Stopping

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FLOORING

Flooring systems designed for the semiconductor industry must offer electrostatic discharge (ESD) protection, cleanroom compatibility, and resistance to harsh chemicals, while remaining stable under controlled temperature and humidity conditions. Essential criteria are durability, ease of maintenance, and static electricity control, ensuring that the flooring can withstand heavy foot traffic and equipment movement. A seamless, non-porous surface supports hygiene and contamination control, while slip resistance enhances worker safety.

Main Criteria for Utility Areas:

- Durability
- Impact resistance
- Chemical resistance
- Thermal shock resistance
- Slip resistance
- Seamless
- Airborne molecular contamination control

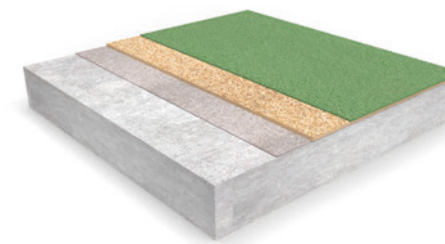


Flowcoat SF41 LE

Utility areas

In such facilities, key areas to consider include cooling towers and fan decks, sub-FABs, gas pads, loading and waste zones, chemical containment areas, trenches and floor drains and mechanical/plant rooms.

The typical risks in these rooms include abrasions from forklift and pallet traffic, point impacts, thermal shock, frequent wet cleaning with powerful chemicals, chemical spills and many more.



Flowcoat SF41 LE

A high performance, solvent free thin resin coating

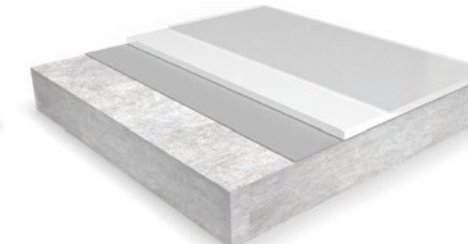
Thickness
0,350 mm – 0,500 mm

Application areas

- Chemical and Equipment storage
- Warehouse

Benefits

- Decorative and colored
- Seamless and smooth surface that is easy to clean and maintain
- Very low VOC emission for room in vicinity of cleanroom area



Peran SL

Glossy, hygienic, hard wearing and self smoothing floor finish

Thickness
2,0 – 3,0 mm

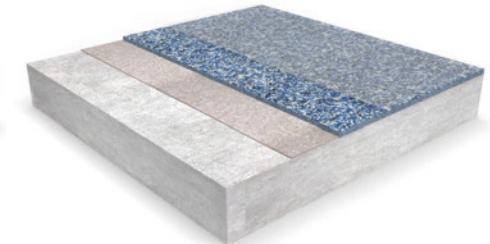
Application areas

- Production areas
- Laboratories
- Packaging

Benefits

- Decorative and colored
- Seamless and smooth surface that is easy to clean and maintain, suitable for cleanroom
- Hard wearing and high load strength
- Very low VOC emission for air quality in cleanroom (Version Peran SL LE)
- Attractive: enhances the appearance of working environment

For electrostatic protection use Peran ESD SL (see page 7).



Peran STB Compact

Very hard wearing, scratch resistant and decorative floor topping made of colour stable quartz encapsulated in a clear resin binder

Thickness
3,0 – 4,0 mm

Application areas

- Laboratories
- Maintenance
- Warehouse
- Packaging

Benefits

- Very robust for high traffic and accidental impact, with falling heavy object
- Very low VOC emission (Version Peran STB Public) for indoor air quality in laboratories
- High aesthetics for heterogeneous surface finishing

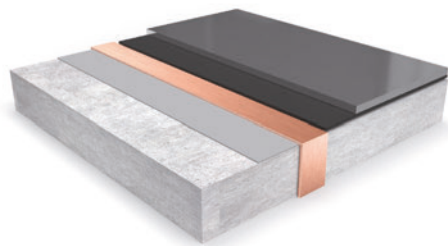
For electrostatic protection use Peran ESD STB Compact.

Cleanrooms

Cleanrooms are a core component of fabs and demand rigorous air quality control. Key risks include stringent contamination thresholds, ESD sensitivity, chemical cleaning requirements, CMP slurry staining, AMC limitations, and frequent solvent use such as IPA wipes. Flooring systems in these spaces must have very low VOC (volatile organic compounds) emissions and be exceptionally robust and engineered to withstand chemical exposure, prevent particle generation, and provide reliable static control to protect sensitive electronic components. Furthermore, maintenance protocols and material compatibility are critical to maintaining optimal cleanroom performance over time.

Main Criteria for Cleanrooms:

- Particle control and cleanability
- ESD control
- Airborne molecular contamination control
- Flatness and seamless
- Chemical resistance
- Gloss and visual
- Low VOC emissions



Peran ESD SL20

An anti-static, self-smoothing resin floor finish that is easy to clean.

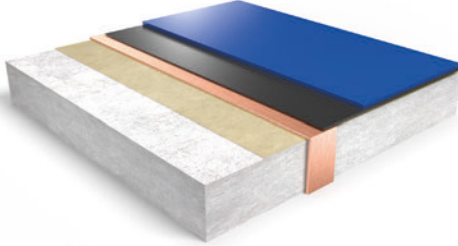
Typical thickness: 2.0 mm

Application Areas:

- Semiconductor plant and technical rooms
- Network operation centre
- Fiber & networking room
- Technical spaces
- EPAs (Electrostatic Protected Areas) for pedestrian areas

Benefits:

- Anti-static: Meets EN IEC 61340 and EN 1081 requirements
- Hygienic: Seamless finish for easy cleaning and maintenance
- Durable: Withstands sustained medium to heavy foot traffic
- High load strength: Supports heavy racks and equipment
- Aesthetic appeal: Enhances the workspace environment



Flowcoat ESD SF41

Smooth, anti-static flooring system based on solvent-free, pigmented, epoxy resin.

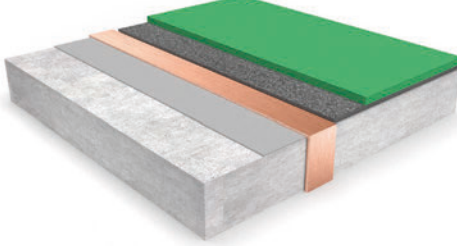
Typical thickness: 0.65 mm

Application Areas:

- Ideal under raised floor in following area: Semiconductor plant technical rooms, network operation centre and fiber & networking room
- EPAs (Electrostatic Protected Areas) for pedestrian areas

Benefits:

- Anti-static: Meets EN IEC 61340.5.1 and EN 1081 requirements
- Hygienic: Seamless finish for easy cleaning and maintenance
- Durable: Withstands sustained light to medium foot traffic
- Aesthetic appeal: Enhances the workspace environment



Flowfresh ESD SL

A self-smoothing, static controlling, medium duty, resin floor finish with exceptional wear resistance, chemical resistance and temperature resistance up to 75°C.

Typical thickness: 2 to 3 mm

Application Areas:

- Fire suppression room
- Generator/backup power room
- Semiconductor plant production & storage areas including ATEX
- Technical spaces

Benefits:

- Anti-static: Meets EN IEC 61340 (Rg<1GΩ) and EN 1081 (Rg<1MΩ) for electrical properties
- High chemical resistance to most solvents and acids, organics, and inorganics
- Very high abrasion resistance to protect against heavy duty processes
- Very high load strength and wear resistance: Holds against impact, traffic and chemical attacks.
- Hygienic: Provides a seamless finish that is easy to clean and maintain



Peran ESD SL20



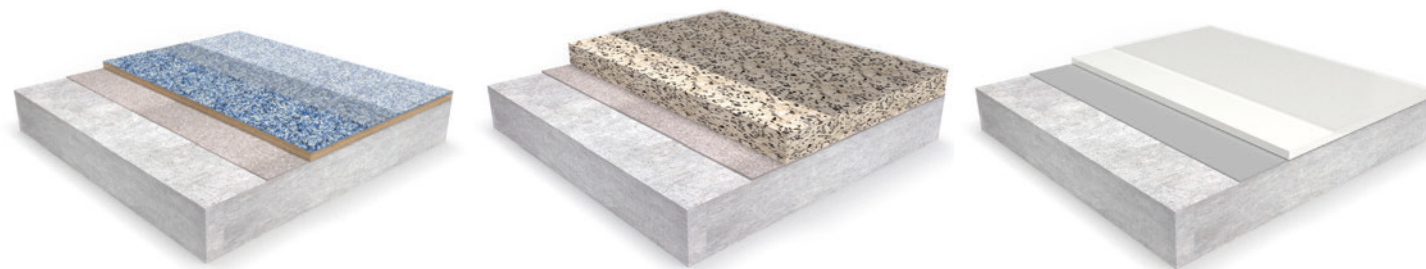
STRUCTURAL WATERPROOFING

Water is a critical resource and its preservation is essential, especially in environments where reliability and security matter a such as semiconductor fabrication facilities. A well-designed waterproof tank ensures water remains uncontaminated, prevents leaks, and safeguards infrastructure from potential damage caused by seepage or humidity.

Vandex offers a comprehensive portfolio of waterproofing solutions that enhance the durability and efficiency of water storage systems. With high-performance coatings, cementitious sealants, and crystalline technology, Vandex products create a watertight structure that resists pressure, chemical exposure, and long-term wear. For fabs, where cooling systems depend on a stable and secure water supply, Vandex ensures that storage tanks meet the highest standards of waterproofing. By integrating a robust waterproofing system, facilities can minimise risks, improve sustainability, and maintain operational efficiency. Choose Vandex to secure your water storage with proven waterproofing expertise.

Main Criteria for Specialty Systems:

- Robust decorative solutions
- Exceptionally flexible and comfortable
- Decorative and anti-slip systems



Flowfast BC

A hard wearing, decorative and very fast curing MMA flooring system that delivers a decorative matt finish. Flowfast BC consists of durable colour stable quartz granules encapsulated in a clear resin binder and delivers a fully trafficable surface just 60 minutes from application.

Typical thickness: 4mm

Application Areas:

- Cooling and HVAC rooms
- Cabling rooms
- Loading and staging areas
- Storage and spare part rooms

Benefits:

- Very short downtime when installing
- Slip resistant system for high safety at work
- Attractive: Enhances the appearance of working environment

Mondeco / Mondeco TZ

Mondeco / Mondeco TZ are decorative epoxy or polyurethane terrazzo floor finishes containing granite and flint aggregates. Providing a highly resistant surface, these systems are suitable for use in fabs where durability, load resistance and ease of maintenance are critical.

Typical thickness: 7 to 8 mm

Application Areas:

- Entrance hall
- Meeting and break rooms
- Security control rooms
- Fire suppression rooms

Benefits:

- Very robust for high traffic and accidental impact, with falling heavy objects
- High aesthetics for heterogeneous surface finishing
- Easy maintenance as terrazzo may be regenerated

Peran Comfort

A matt, self-smoothing flexible polyurethane resin floor finish, Peran Comfort has enhanced resistance to UV light and offers sound dampening properties. Ideal for a minimalist, modern, and contemporary environment and areas with intensive pedestrian traffic such as offices.

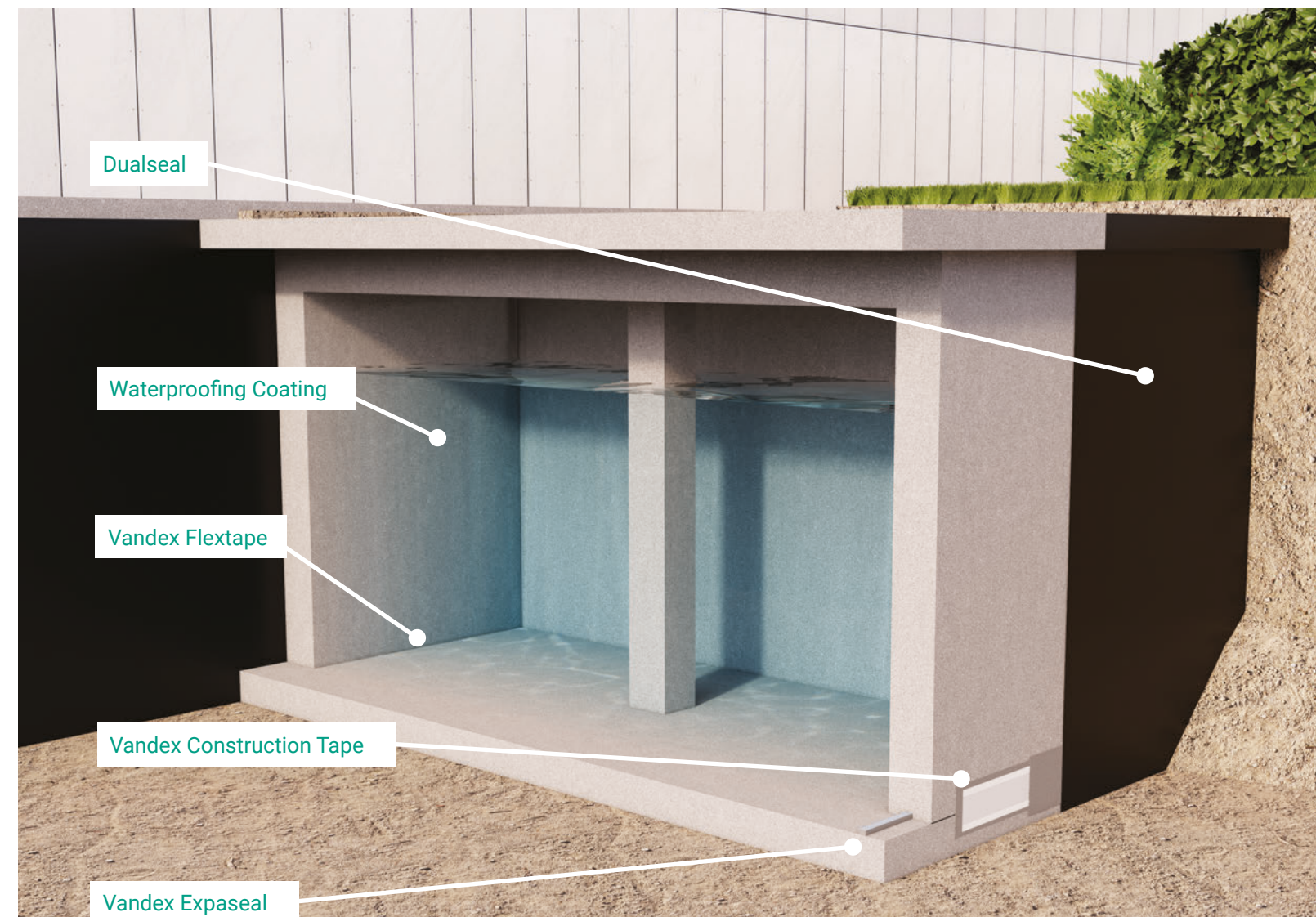
Typical thickness: 2 to 3 mm

Application Areas:

- Break and rest areas
- Office and admin areas

Benefits:

- Warm and comfortable for a good feeling under the foot
- Reduce staff fatigue, absorb energy and reduce injury associated with falls
- The floor prevents the echoing, distracting noise from footsteps due to its soft elastic behaviour. This makes it the perfect floor for working, healing or residing areas
- Elastic material that take deformation instead of destruction
- Suitable for furniture castors



HVAC SEALING & BONDING



Air-handling units and components require airtightness, decoupling against vibration and must comply with hygienic requirements to operate reliably for a long period of time. In addition, some construction details could require the reduction of mechanical fixings.

- Sealing/Decoupling: Modular component connections, condensation units, ventilation units, heat-exchanger, ducting
- High temperature sealing: heating systems
- Dynamic bonding: housing components, panels



SP610 Ventilation Seal

Gun grade sealant based on illbruck hybrid technology for silicone free sealing in hygienically controlled environments.

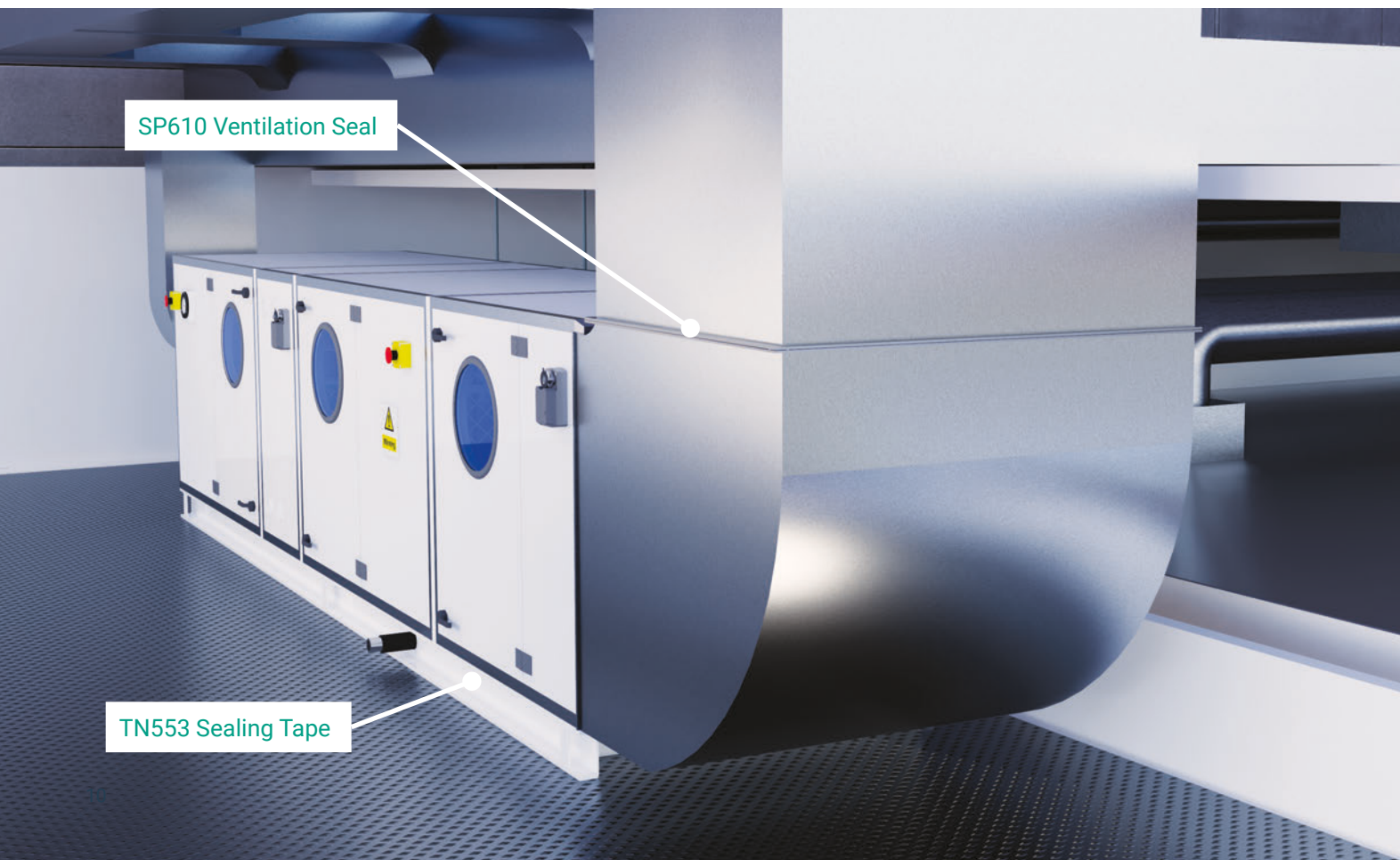
- Wide adhesion spectrum, bonds to a wide range of metal, ceramic, plastic substrates - often without the need for primer
- Highly flexible, reduced risk of adhesion failure when subject to stresses caused by metal duct expansion and contraction
- Low VOC, silicone, isocyanate and solvent free with low odour
- Meets requirements of EN ISO 846 (Method A & C) and VDI 6022 (Ventilation & Air Conditioning)



TN553 Sealing Tape

Self-adhesive PVC foam tape with pressure sensitive acrylic adhesive, supplied on an easy to use roll.

- Highly conformable grade of tape that easily accommodates rough or uneven joint surfaces
- Excellent insulation performance against shock, vibration and movement
- Meets requirements of EN ISO 846 (Method A & C) and VDI 6022 (Ventilation & Air Conditioning)



SP610 Ventilation Seal

TN553 Sealing Tape



SP350 High Tack Pro

SP050 Multi Adhesive Pro

FLEXIBLE SEALING & BONDING

Beside proper sealing against contamination, flexible bonding is the right choice if a reduction of mechanical fixing is required for components or substrates. Applicable areas include:

- Panels and floor connections
- Worktops
- Furniture connections
- Areas where dynamic load transfer between assembled parts is required



SP350 High Tack Pro

SP350 is a one component, non-sagging, elastic adhesive based on hybrid polymers.

- High initial grab and rapid development of final bond
- Solvent free, very low odour, and chemically neutral
- Instant grab can minimise the need for additional clamping or other mechanical supports
- Good resistance to light, weather and ageing - suitable for internal and external applications



SP050 Multi Adhesive Pro

This is a multi-purpose sealant and adhesive based on illbruck's advanced SP polymer formulation.

- A more environmentally friendly alternative to traditional polyurethane adhesives - does not contain solvents or isocyanates and is very low odour
- Excellent adhesion to a wide range of materials including metals, glass, PVC and concrete
- Tack free in less than 30 minutes

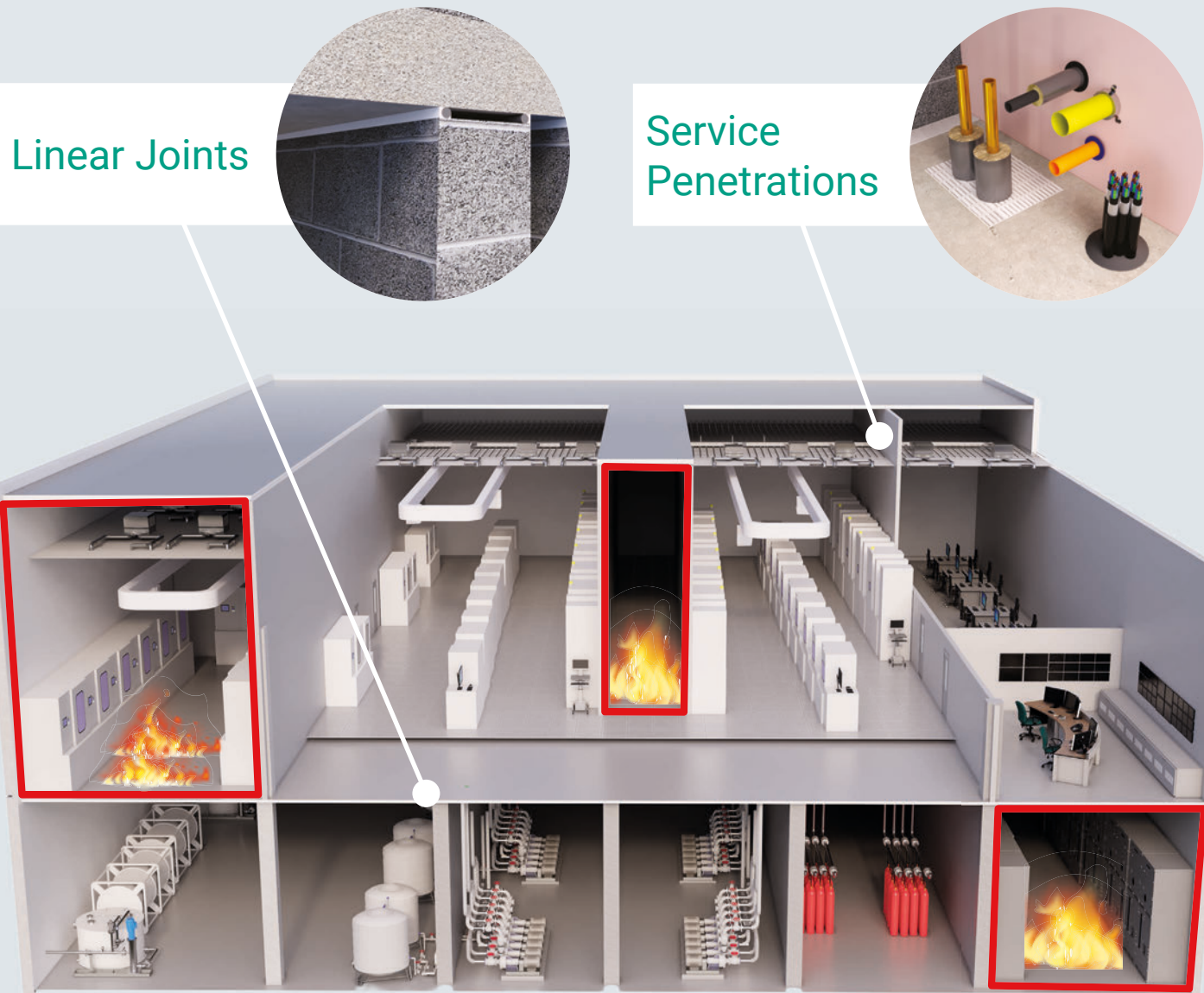
Product Highlights

Our range of adhesives and sealants offer high performance solutions to support dynamic load transfer of equal or dissimilar building materials, e.g. dynamic bonding of metal sheets and construction panels

FIRE COMPARTMENTATION

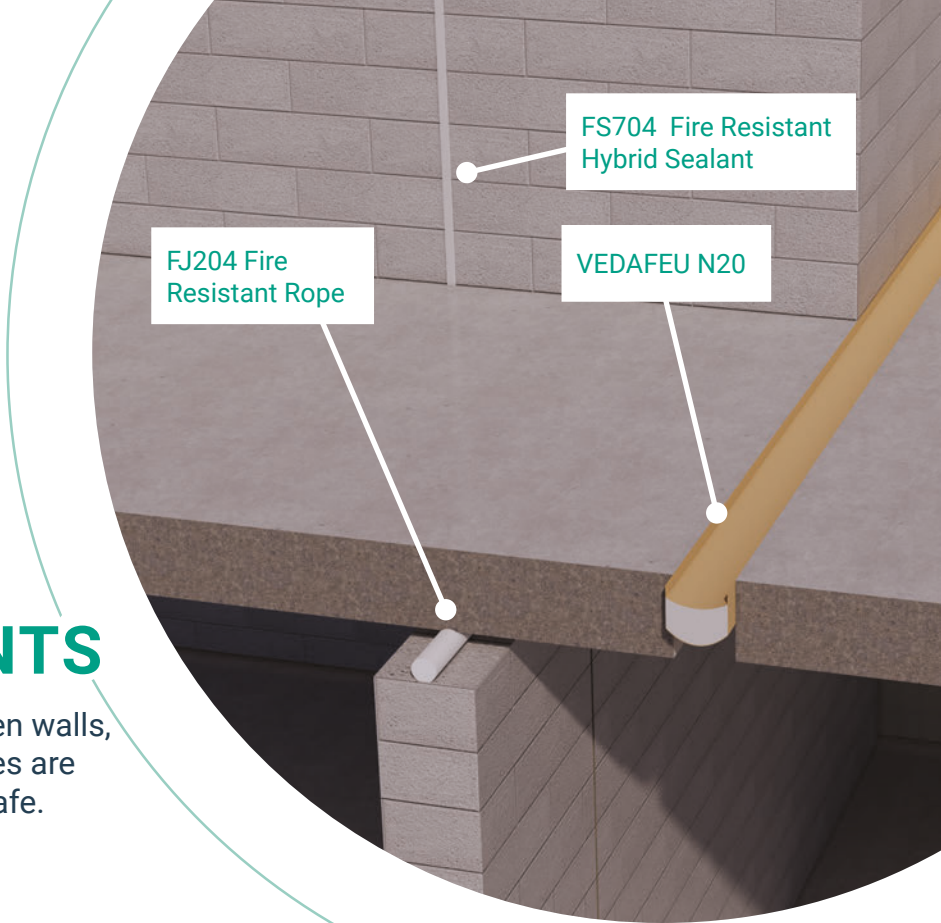
Fire compartmentation is crucial for ensuring the safety of semiconductor fabrication plants by preventing the spread of fire and smoke. Compartmentation is created by fire stopping all linear joints and service penetrations within the compartment.

With its innovative solutions, Nullifire effectively protects critical infrastructure by creating fire-resistant zones with fire stopping sensitive points like cable passes, ducts, and joints. This approach strengthens building integrity, extends evacuation time, and minimises damage in the event of a fire, providing maximum protection for semiconductor devices and equipment.



FIRE STOPPING FOR LINEAR JOINTS

By effectively treating the voids between walls, slabs and around openings, the volumes are sealed and the construction is made safe.



Product Highlights

The Nullifire range of fire stopping linear joints products consists of hybrid sealants, foams, cavity barriers and more. Here are a few highlights from our extensive range:



FS704 Fire Resistant Hybrid Sealant

Firestop sealant system, single component hybrid sealant, free from isocyanates, silicone and phthalates. Up to 2 hours fire resistance (EI120) - Tested to EN 1366-4

- Application area
- 5 to 50mm joint width
 - Drywall, masonry, concrete walls & floors, wood construction, steel construction

- Benefits:
- Acoustic & smoke sealing
 - Can be painted
 - Different finish colours
 - Watertight



FJ204 Fire Resistant Rope

Firestop system made of a core of fireproof and rotproof mineral fibres bound by an outer braiding of fibreglass thread.

Up to 4 hours fire resistance (EI240) - Tested to EN 1366-4 - Tested with 20% movement

- Application area
- 10mm to 150mm joint width
 - Masonry, concrete walls & floors
 - Suitable for irregular joints

- Benefits:
- Acoustic & smoke sealing
 - Can be combined with sealants such as Nullifire FS703, FS706
 - Can be combined with VEDA's expansion joints covers and waterproofing system



VEDAFEU N20

Firestop blanket system for large opening.

Up to 4 hours fire resistance (EI240) - Tested to EN 1366-4 - Tested with complementary cycles 50% movement

- Application area
- 60mm to 300mm joint width
 - Concrete walls & floors, steel deck
 - +50% movement capability

- Benefits:
- Can be combined with VEDA's expansion joints covers and waterproofing system



Guaranteed Product Traceability

Optifire and Optifire+ are pioneering technologies that provide lifelong traceability of products after the construction phase.

Product Highlights

The Nullifire range of fire stopping products for service penetrations consists of acrylic sealants, intumescent sealants, mineral fibre boards, fire collars and more. Here are a few highlights from our extensive range.



FS709 Intumescent Sealant

A high pressure exerting, graphite intumescent mastic.

Up to 4 hours fire resistance
- tested to EN 1366-3

Application area :

- Used around combustible services/ insulation to close voids in the event of a fire
- Can be used direct, or within FB750 Intubatt
- Flexible & rigid walls, rigid floors, CLT walls & floors

Benefits:

- Acoustic & smoke sealing
- «Collar in a tube»: versatile & easy to apply



FS702 Fire Resistant Acrylic Sealant

Water-based acrylic sealant which cures to give a firm but flexible fire seal.

Up to 4 hours fire resistance (EI240)

Application area:

- Used around non-combustible services/ insulations
- Can be used direct, or within FB750 Intubatt.
- Flexible & rigid walls, rigid floors

Benefits:

- Acoustic & smoke sealing
- Easy to apply



FB750 Coated Batt

Lightweight fire barrier comprising of a rock mineral fibre board with an uniquely identifiable ablative coating.

Up to 4 hours fire resistance (EI240) -
Tested to EN 1366-3

Application area :

- Used to reinstate the fire performance of fire rated wall & floor in large openings up to 6.76m²
- Flexible & rigid walls, rigid floors & under timber floors, CLT walls, white walls

Benefits :

- Acoustic & smoke sealing
- Lightweight material (MSI reduction)
- Enables new networks to be crossed



FP333 Trunking Infill

Designed to provide a permanent fire barrier within trunking boxes passing through fire compartment walls.

Up to 2 hours fire resistance (EI120)
- Tested to EN 1366-3

Application area:

- Ideal where there are regular changes in cabling, requiring frequent removal and replacement.

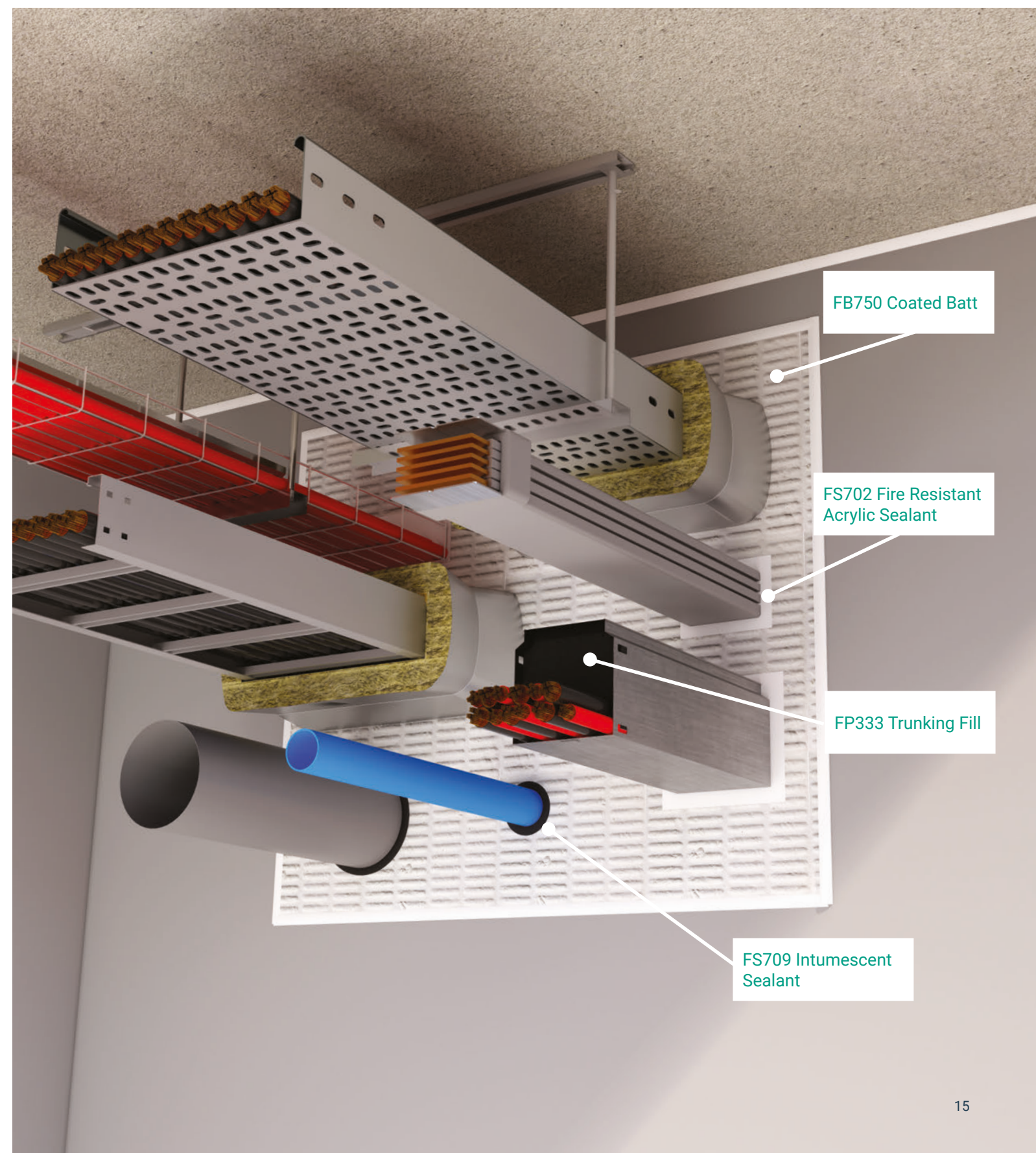
Benefits:

- Integrity, insulation and smoke seal
- Zero fibre migration
- 3 standard sizes to allow for complicated service conditions
- Full dry system

FIRE STOPPING FOR SERVICE PENETRATIONS

Nullifire

Fire stopping around technical penetrations are crucial. They seal spaces created by the combustion of combustible networks (e.g., fibre optic cables, PVC, HDPE ducts) and destroyed insulation, preventing the spread of fire, smoke, and heat.



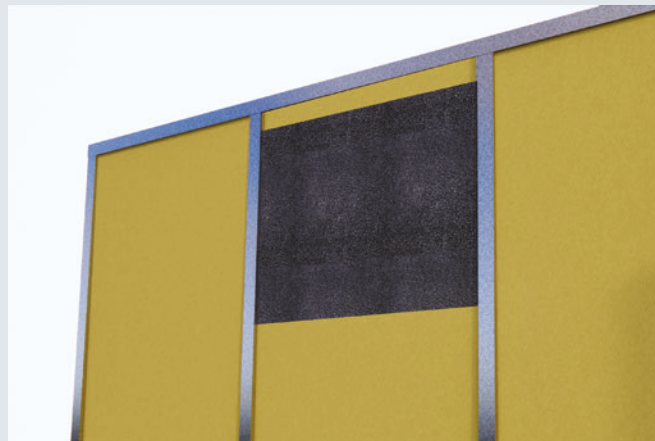
FB750 Coated Batt

FS702 Fire Resistant Acrylic Sealant

FP333 Trunking Infill

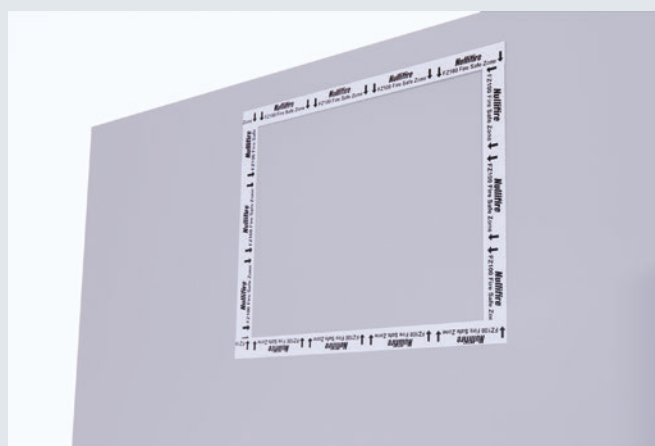
FS709 Intumescent Sealant

PATENTED INNOVATION for quick & easy installation on-site



OFF-SITE or ON-SITE The firewall construction phase.

- 1 A piece of FZ100 panel is inserted inside the wall panel.
- 2 The wall is closed and the area marked as FZ100 Fire Safe Zone.



ON-SITE Simple and flexible retro-fit of any services, anytime after the construction.

- 1 Appropriate size openings are drilled or sawn to the plasterboard.
- 2 The services are pushed through the FZ100 and all penetrations are sealed with FS702 Fire Resistant Acrylic Sealant. FIRESTOPPING DONE.

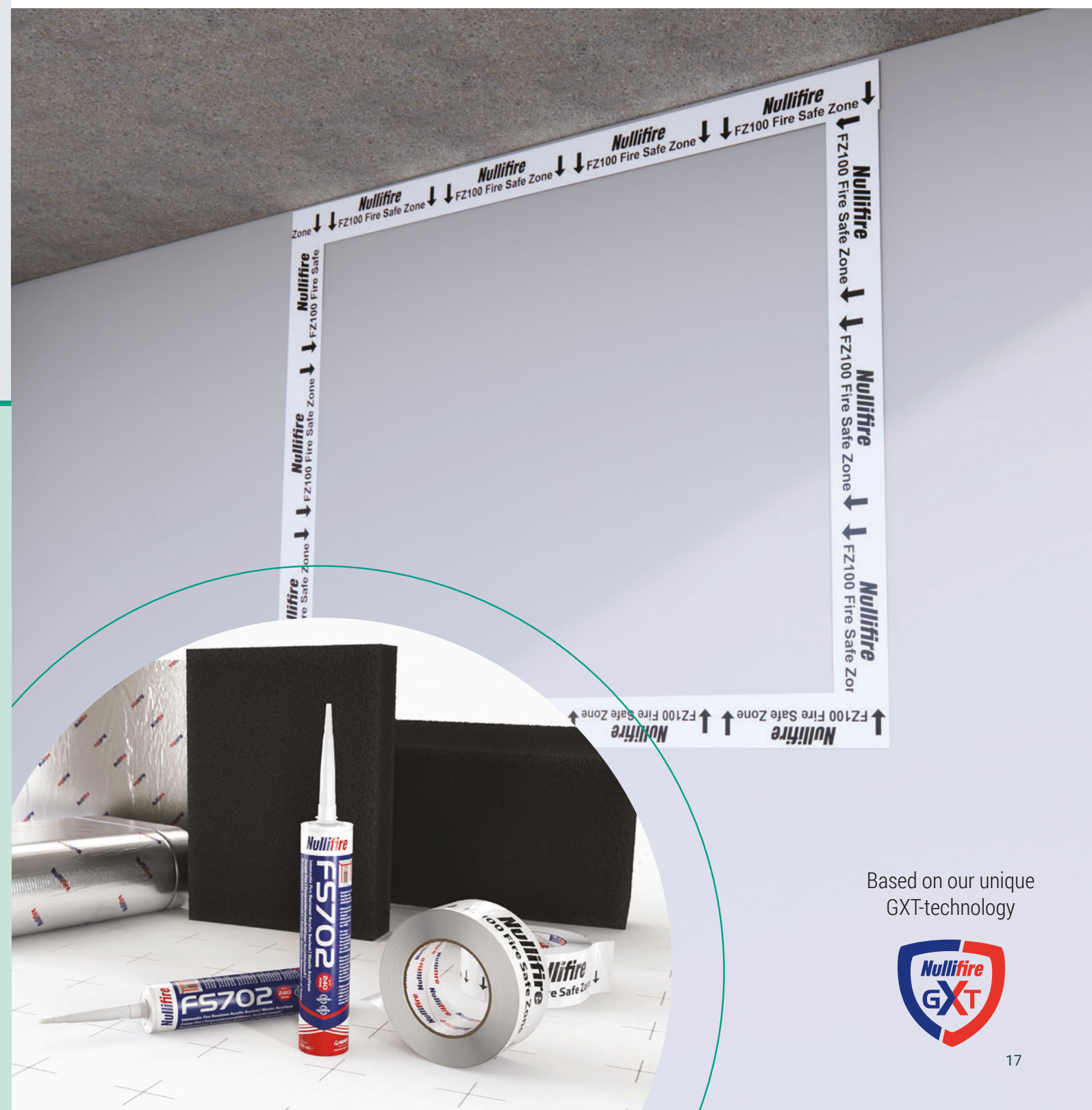


REMAIN FLEXIBLE WITH FZ100 FIRE SAFE ZONE

Nullifire

Nullifire Fire Safe Zone system revolutionises the installation of cable transit management in semiconductor facilities by combining fire safety and operational efficiency.

Factory-prefabricated, this solution enables quick and easy installation on-site. It ensures effective fire compartmentation, which is essential for protecting critical infrastructure. FZ100 Fire Safe Zone remains accessible for future cable additions without compromising safety. By integrating this solution, fabs streamline maintenance and ensure long-term compliance with fire protection regulations.



Based on our unique
GXT-technology



MORE SOLUTIONS FROM TREMCO CPG TO COVER YOUR CONSTRUCTION NEEDS



ROOFING

AlphaGuard BIO 20 is a two-part, polyurethane, liquid applied roofing system that can turn your older but still functional roof into a long-lasting, highly efficient weatherproofing system by overlaying. The system can waterproof over existing flat roof build-ups and structural roof decks. It can also be used as a full system build up for either roof replacement or new build construction projects.



BALCONIES

Vulkem by Tremco offers a high-performance waterproofing system ideal for balconies in the social areas of fabs. This elastomeric coating provides a seamless, slip-resistant, and UV-resistant barrier, protecting outdoor spaces from water infiltration and wear due to constant foot traffic. Designed for high-durability environments, Vulkem ensures superior adhesion and flexibility, preventing cracks and leaks while enhancing the safety and longevity of fab social areas. Its easy application and maintenance make it a reliable solution for safeguarding these key spaces in a fab.



STRUCTURAL GLAZING

Tremco's Structural Glazing Systems provide durable, weather-resistant bonding for glass and metal facades, ensuring a sleek, secure, and energy-efficient building envelope. Using advanced silicone adhesives, they eliminate mechanical fasteners, enhancing thermal performance and structural integrity. For fabs, these systems offer superior protection against weather and structural movement, ensuring long-term durability and compliance with modern safety standards. Their seamless design improves energy efficiency while maintaining a high-performance, resilient facade.



WALL STRUCTURES

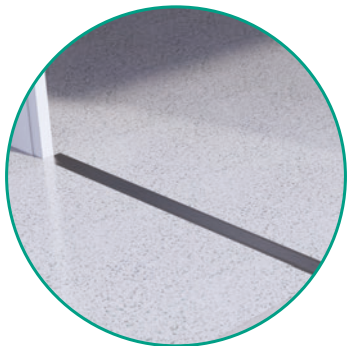
NUDURA provides Insulated Concrete Forms (ICFs), an advanced wall system that combines reinforced concrete with integrated insulation for superior strength, energy efficiency, and durability. These forms create a high-performance building envelope, improving thermal insulation and reducing energy costs.



EIFS

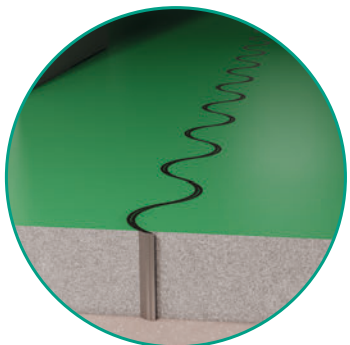
Dryvit specializes in Exterior Insulation and Finish Systems (EIFS), offering versatile, lightweight, and highly energy-efficient façade solutions. EIFS enhances the exterior aesthetics while providing an additional layer of insulation and weather protection.

By combining NUDURA ICFs with Dryvit EIFS, builders achieve exceptional energy efficiency, superior durability, and design flexibility. This system ensures maximum thermal performance, reduces operational costs, and provides a seamless, modern finish.



SEISMIC JOINTS

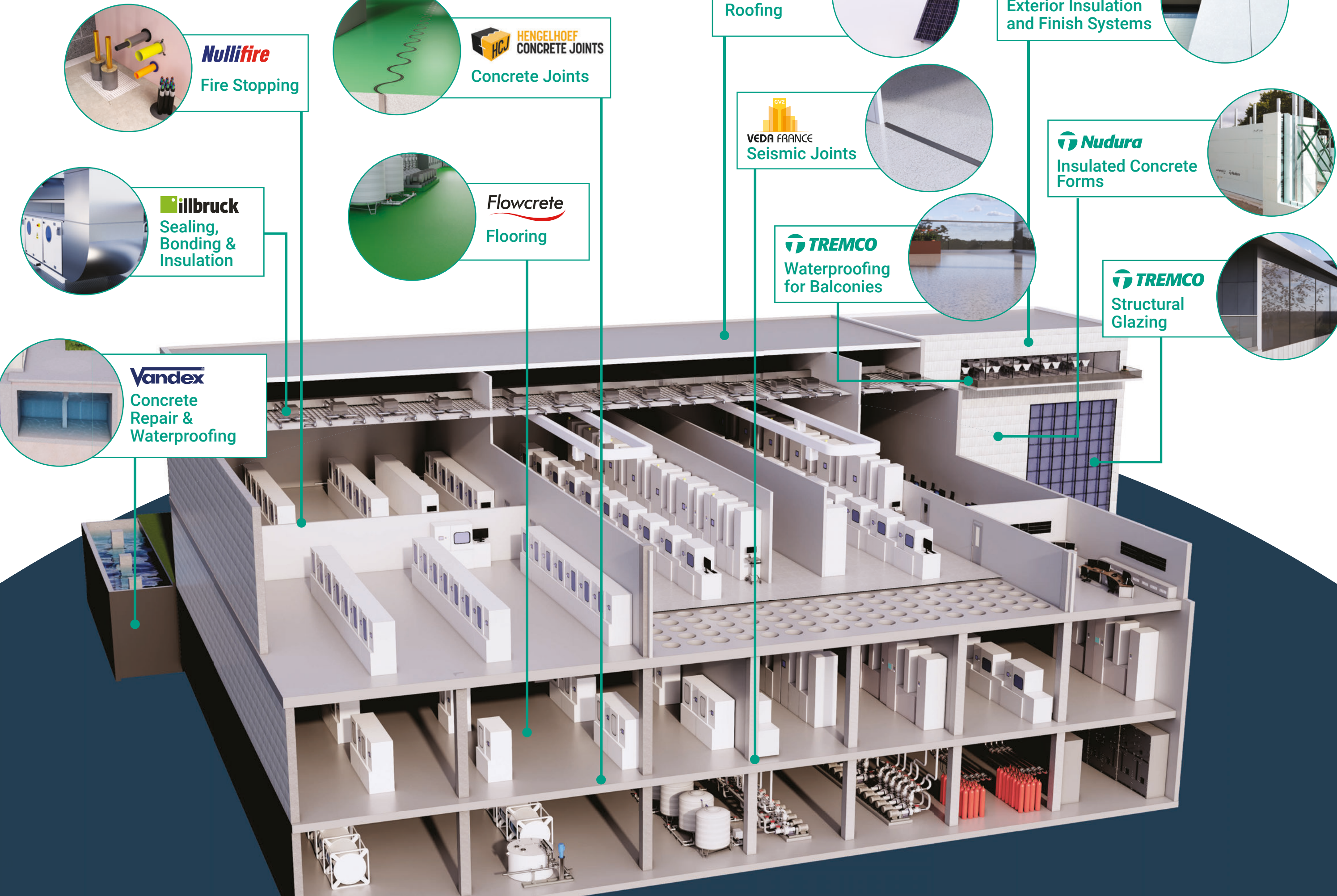
For fabs, seismic joints are essential to protect critical infrastructure from structural stress and potential damage. By preventing cracks and deformations in floors, walls, and ceilings, VEDA France's solutions help maintain the continuity of operations, protect sensitive equipment, and reduce downtime. Their systems are designed for easy installation, durability, and compliance with seismic safety regulations, making them a reliable choice for safeguarding high-value facilities.



CONCRETE JOINTS

Cosinus Slide® Sealed by HCJ is a high-performance joint system for concrete floors on ground, designed to accommodate horizontal movements while maintaining vertical integrity and load transfer. The sliding mechanism allows for concrete shrinkage and thermal expansion, and vibration, ensuring a durable, seamless joint. Ideal for fabs, it provides long-term protection against infiltration of debris, offering flexibility and easy maintenance for concrete joints.

ALL OUR BRANDS WORKING FOR YOU



*Find out more, visit:
www.tremcocpg.eu*

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