TECNO MAGAZINE by TECNOPOL

HISTORY OF WATERPROOFING

INDEX

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HISTORY OF WATERPROOFING

A look at how waterproofing techniques and materials have evolved over the years.

Waterproofing, although often overlooked, is fundamental to the structural integrity of buildings and to ensuring the comfort and safety of inhabitants.

Since the dawn of civilisation, humans have sought ways to protect their buildings from water. As societies evolved, so did the techniques and materials used for waterproofing.

But how did we arrive at the modern techniques we know today? **Let's explore the historical journey of waterproofing.**

ANCIENT TIMES: FIRST STEPS IN WATERPROOFING

Ancient civilisations quickly understood the need to protect their structures from water. In ancient Mesopotamia, for example, adobe buildings were covered with layers of bitumen to repel water. The Egyptians, on the other hand, used natural resins and fats to seal ships and buildings.

Ancient Rome took waterproofing to a new level. They used opus signinum, a mixture of lime, sand and crushed pottery, to waterproof their impressive aqueducts, cisterns and thermal baths.

MIDDLE AGES: ADVANCES AND DISCOVERIES

During the Middle Ages, with the construction of great cathedrals and castles, waterproofing became an essential task. Although they lacked today's advanced technologies, medieval builders developed a number of ingenious techniques to repel water. Here are some of the most common techniques of that era:

- **Gable roofs:** One of the most distinctive features of medieval architecture is the gabled roof. This design allowed rainwater to run off quickly, preventing accumulation and possible seepage.
- **Terracotta tiles:** Terracotta tiles, overlaid in specific patterns, were essential to repel water. Their shape and layout allowed water to flow to the edges and be channelled away from the structure.
- **Dense masonry:** Stone or brick walls were built with a technique that minimised cracks, which in turn reduced the possibility of leaks.
- **Lime and mortar:** Lime was an essential component in the mortar used to bind stones and bricks together. In addition to providing a strong structural bond, lime acts as a water repellent.
- **Oils and resins:** Some wooden structures, such as roof beams or doors, were treated with natural oils and resins to make them water resistant.
- **Gutters and drainpipes:** Although more rudimentary than today's systems, medieval builders also used gutters and drainpipes to direct water away from building foundations.
- **Lead coatings:** In some important buildings, such as cathedrals, lead was used to clad roofs and other surfaces exposed to water. This material was particularly effective in preventing leaks.
- **Raised foundations:** Many buildings were built on raised foundations, which helped prevent rising damp from the ground.
- **Drainage systems:** In places where water tended to accumulate, drainage systems were built to channel water away from structures.

These techniques, though rudimentary compared to modern methods, were effective for their time and reflect the ingenuity and skill of medieval builders.

INDUSTRIAL REVOLUTION: BIRTH OF MODERN MATERIALS

With the advent of the Industrial Revolution in the 19th century, waterproofing underwent a radical transformation. As cities grew and construction became more advanced, the need for more effective and durable waterproofing solutions arose. Below are some of the waterproofing techniques and materials that emerged or gained popularity during this period:

- **Asphalt:** One of the most revolutionary materials to emerge during this period was asphalt. It was used on roads and also roofs and other surfaces to provide a waterproof barrier.
- **Asphalt sheets:** These are felt or glass fibre based membranes impregnated with asphalt. They were mainly used for roofs and terraces, offering protection against leaks.
- **Rubber:** With the development and industrial production of rubber, flexible waterproofing products emerged that could be used on various surfaces.
- **Waterproof paints and coatings:** The mass production of paints and coatings with waterproofing properties became popular. These products were used on walls, ceilings and other surfaces to repel water.
- **Portland cement:** Although cement was already known, Portland cement, patented in the 19th century, offered greater strength and durability. Its ability to harden even under water made it invaluable in underground and marine construction.
- **Galvanised iron:** Galvanisation involves coating iron or steel with a protective layer of zinc, protecting it from corrosion and thus from water damage.
- **Lead and zinc:** These materials were used on roofs, gutters and downpipes, providing a durable and waterproof solution.
- **Improved drainage systems:** With the growth of cities and the need to manage large amounts of wastewater and stormwater, more advanced drainage systems were developed.
- **Synthetic materials:** As chemistry advanced, new compounds and polymers emerged that offered

waterproof solutions.

- **Laminated glass and sealants:** The production of laminated glass and the use of advanced sealants allowed the construction of buildings with large glass surfaces without compromising watertightness.

These innovations emerged in response to the changing demands of a rapidly developing society. The ability to mass-produce materials and innovations in chemistry and engineering led to more advanced and effective waterproofing solutions than those available in earlier periods.

20TH CENTURY: INNOVATIONS AND ADVANCED TECHNOLOGIES

EThe 20th century saw a boom in research and development of building materials and techniques, including waterproofing solutions. The increasing demands for modern infrastructure and the new technologies available led to a number of innovations in this field.

- **EPDM membranes:** EPDM (ethylene propylene diene monomer) is a type of synthetic rubber that is widely used as a waterproofing membrane, especially in roofing. It is known for its durability and resistance to UV rays and extreme weather conditions.

- **PVC and TPO membranes:** These plastic membranes offer excellent water resistance and are widely used on roofs and terraces. They are flexible, UV-resistant and have a long service life.

- **Liquid membranes:** These are products that are applied in a liquid state and then harden to form a continuous waterproof membrane. They can be based on polyurethane, polyurea, acrylics and silicone, among others.

- **Geotextiles:** These are synthetic fabrics used in civil engineering for separation, filtration and drainage, and have waterproof properties.

- **Bentonite:** A type of clay that expands when wet, forming an impermeable barrier. It is used in the form of impregnated panels or geotextiles for waterproofing foundations and basements.

- **Crystalline polymers:** These are admixtures that are mixed with concrete and react chemically to form waterproof crystals in the pores of the concrete, making it water resistant.

- **Self-adhesive membranes:** These membranes come with an adhesive on one side and adhere directly to the surface being waterproofed.

- **Polyurethane foams:** These foams are sprayed on the surface and expand, forming a waterproof and insulating barrier.

- **Resins and epoxies:** These products are used to waterproof surfaces and also to repair cracks and joints in existing structures.

- **Modern sealants:** The development of silicone, polyurethane and other polymer sealants greatly improved our ability to seal joints, cracks and penetrations in structures.

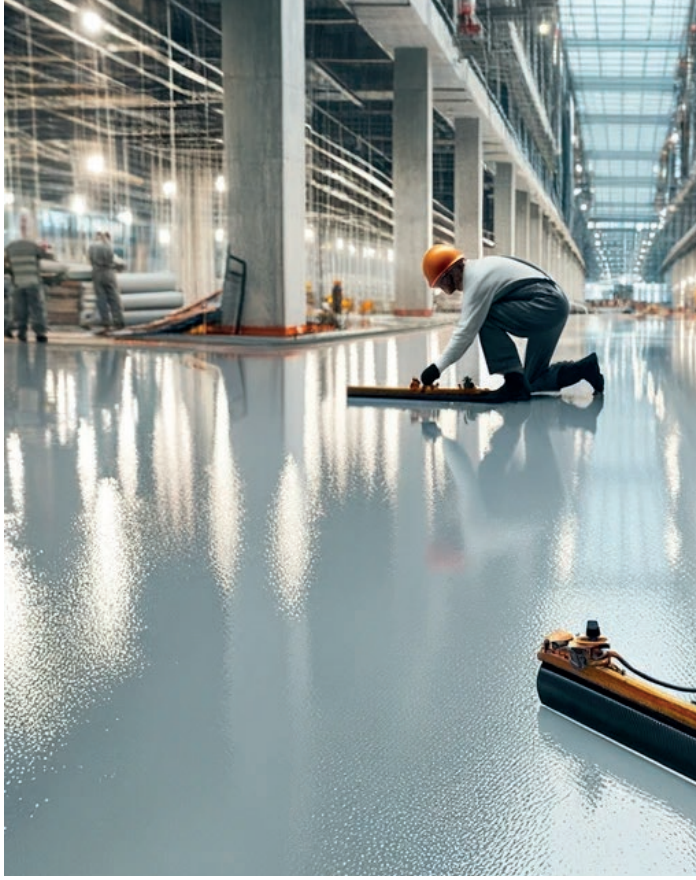
- **Drainage technologies:** More advanced drainage solutions, such as drainage panels and underground drainage systems, were introduced to protect underground structures from water pressure.

These innovations reflect the rapid evolution of technology and engineering during the 20th century. With the growth of cities and the demand for taller buildings and deeper basements, waterproofing solutions had to constantly adapt and improve to meet these new challenges

TODAY: MOVING TOWARDS SUSTAINABLE WATERPROOFING

In the 21st century, waterproofing plays a crucial role in the protection and durability of structures. Over the past decades, the industry has constantly searched for more effective and versatile solutions to meet this challenge. In this context, polyurea and polyurethane liquid membranes have emerged as leaders, establishing themselves as preferred options in many modern projects.

Polyurea and polyurethane liquid membranes are coatings that are applied in a liquid state to a surface and, after a curing process, are transformed into a solid, elastic layer that protects against water infiltration. These products combine the chemical properties of polyurea and polyurethane, resulting in highly resistant, flexible and durable membranes.



Part of this success is due to the many advantages of its use:

- **Fast Application:** One of the major advantages of these membranes is their fast curing time. Depending on the formulation and environmental conditions, some can be cured in a matter of seconds.

- **Flexibility:** These membranes have excellent elongation properties, allowing them to adapt to structural movements, expansions and contractions without cracking.

- **Adherence:** They adhere firmly to a wide variety of substrates, from concrete to metal, ensuring complete protection.

- **Durability:** They are resistant to abrasion and chemicals, giving them a long service life.

- **Seamless application:** As they are liquid, they form a continuous seamless membrane, eliminating weak points where leakage could occur.

With the increasing demand for efficient waterproofing solutions, we are seeing more and more adoption of polyurea and polyurethane membranes. In addition, constant innovations in formulation and application techniques will further expand its efficiency and range of use.

In conclusion, polyurea and polyurethane liquid membranes represent a revolution in modern waterproofing. Their ability to offer long-lasting protection in a wide range of applications has established them as one of the most reliable and versatile options available on the market today.

The history of waterproofing is a testament to human ingenuity and its ability to adapt to the challenges of its environment. From the simple resins and clays of ancient times to the advanced systems of today, waterproofing has come a long way, protecting our buildings and improving our quality of life. With the challenges of climate change and urbanisation, the importance of effective waterproofing will only continue to grow in the future.

BRIDGING DISTANCES: TECNOPOL PRESENT AT THE BIG5 ME

This coming December, the renowned Big 5 Middle East (Big 5 ME) event will once again serve as the epicentre for the construction industry, and Tecnopol will be there to make a difference.

With a prominent presence and a dedicated stand, Tecnopol will present its wide range of products at this prestigious trade fair, consolidating its position as a leader in waterproofing and construction solutions.

December is the month chosen for the most important construction fair in the Middle East.

Tecnopol on the Global Stage

Big 5 ME, which will take place on 4, 5, 6 and 7 December in Dubai, is the leading construction event in the Middle East region. Year after year, this fair attracts thousands of professionals, from architects and designers to contractors and distributors. It is on this international stage that Tecnopol will show the world why it is a benchmark brand in the industry.

A Range to Showcase

Visitors to the Tecnopol stand will have the opportunity to get a closer look at the company's full range of products. From waterproofing solutions to specialised coatings, thermal insulation and even industrial flooring, each product will be displayed and explained by our experts, who will be on hand to answer questions and offer personalised advice.

Connecting with the Future

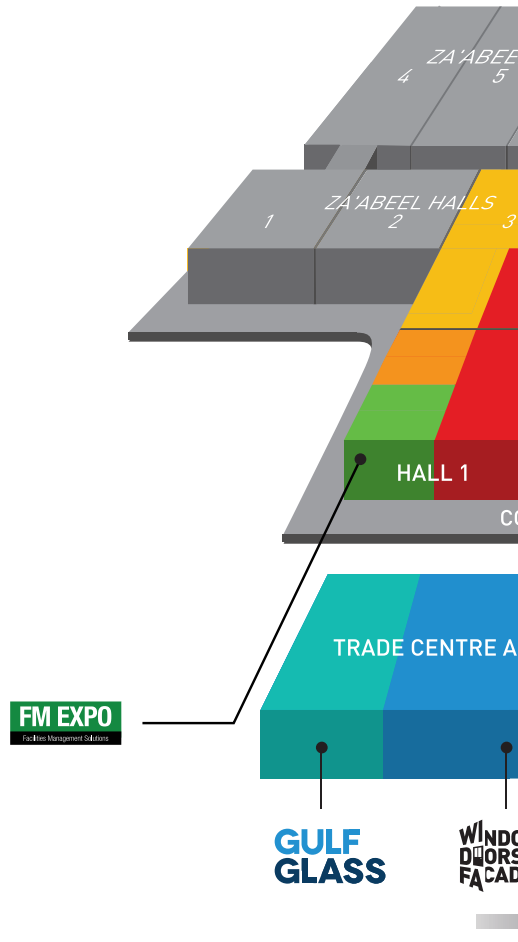
In addition to presenting established products, Tecnopol will use the occasion to showcase our latest innovations. The show will be an unrivalled opportunity to network with other industry professionals, understand current market trends and explore new business opportunities in the region.

In conclusion, next December, Tecnopol's presence at the Big 5 ME will be more than just a simple participation. It will be a statement of the brand's quality, innovation and commitment to the industry and its customers. We invite all attendees to visit our stand, discover our full range of products and connect with the future of construction. **See you at the Big 5 ME!**

Product sectors

- Building Interiors & Finishes
- Concrete & Cement Products, Technologies & Services
- Construction Tools & Personal Protection Equipment
- Digital Construction Products & Services
- FM Products, Technologies & Services
- Glass Production, Technologies & Machineries
- Heavy Construction Equipment, Machinery & Vehicles
- HVAC R Products, Technologies & Services
- Intelligent Buildings
- MEP Services
- Offsite & Modular Construction
- Outdoor Plaza
- Solar Products & Technologies
- Stone Products, Technologies & Services
- Urban Design & Landscape Products, Technologies & Services
- Windows, Doors & Façade / Building Envelope / Special Construction

BIG 5 Global



Features and content

1. **Big 5 Summits** - Al Multaqua Ballroom:
   - 5 Dec – Big 5 Global Leaders' Summit
   - 6 Dec – Big 5 FutureTech Summit
   - 7 Dec – Everything Architecture Talks
2. **Big 5 Talks** – Al Ain A&B (Mezzanine Level above Hall 3 &4)
3. **Big 5 Talks** – Al Ain F (Mezzanine Level above Hall 3 &4)
4. **Big 5 Talks** – Al Ain J&K (Mezzanine Level above Hall 3 &4)
5. **Start-up City & Pitch Competition, Big 5 Technology Talks** – Sheikh Saeed Hall 1
6. VIP Lounge
7. Bar, Restaurant & Networking Hub
8. Digital Construction World

THE BIG 5 International Building & Construction Show

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BETWEEN RAILS AND MEMBRANES

THE WATERPROOFING REVOLUTION IN SPORTS POOLS

Sports pools, with their immense volumes of water and constant athlete use, present unique challenges in terms of maintenance and infrastructure. One of the most crucial challenges is to ensure that these pools are properly waterproofed. Waterproofing not only prevents leaks, but also ensures the structural integrity of the pool and protects the surrounding facilities. In recent years, we have witnessed a real revolution in waterproofing techniques and materials specifically for these pools.

The Challenges of Sports Pools

Unlike residential pools, sports pools face extreme conditions on an almost daily basis. They are subject to intensive use, constant temperature changes, exposure to chemicals and the need to comply with strict regulations in terms of hygiene and safety. These factors make waterproofing even more crucial.

Modern Membranes: Beyond Tradition

In the past, the waterproofing of these pools was mainly based on special cements and paints. However, these traditional methods were often insufficient for the demands of modern swimming pools. The introduction of liquid membranes, especially those based on polyurea and polyurethane, has changed the game.

These membranes, when applied, form a continuous, elastic layer that adheres firmly to the pool surface. Their flexibility allows them to resist structural movements, while their durability ensures long-term protection against leaks.

In this sense, polyurea membranes stand out as the best solution for waterproofing sports pools. Known for its fast curing ability, polyurea also offers excellent flexibility and chemical resistance, properties that make it an ideal choice for waterproofing these types of structures, which are normally subjected to harsh conditions.

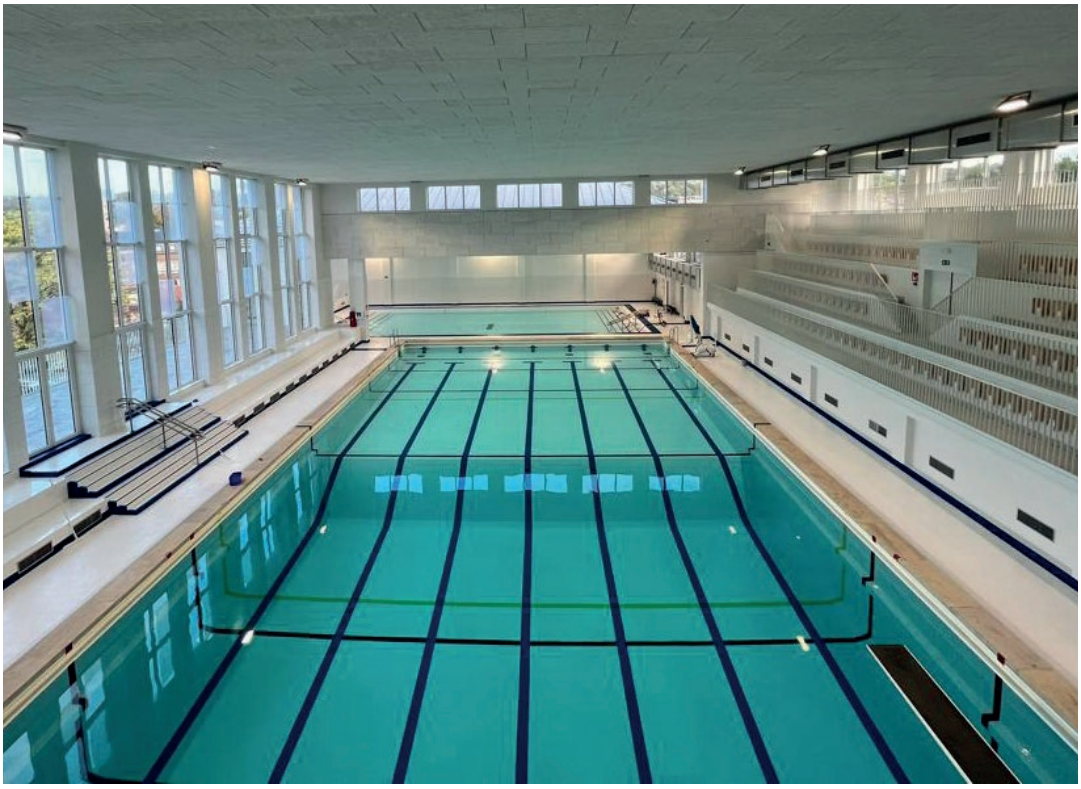
Some of the benefits of Polyurea Membranes in Sports Pools

- **Fast Application:** One of the major advantages of polyurea is its ultra-fast curing time. Once applied, it can be cured in a matter of seconds to minutes, significantly reducing downtime in sports facilities.
- **Durability:** Polyurea is resistant to wear, abrasion and common pool chemicals such as chlorine. This chemical resistance ensures that the membrane does not degrade quickly, offering a long service life.
- **Flexibility:** Despite its hardness, polyurea is incredibly flexible. This feature allows it to withstand structural movement and thermal expansion without cracking or breaking.
- **Adhesion:** Polyurea membranes adhere effectively to multiple substrates, from concrete to metal, ensuring a watertight seal.
- Sealing: Their ability to form a continuous layer without joints or overlaps eliminates weak points and ensures effective waterproofing.

Polyurea membranes are revolutionising the field of sports pool waterproofing. Their unique combination of speed, durability and flexibility makes them a superior option compared to other traditional methods.

CASE STUDY

SWIMMING POOL IN VERVIERS



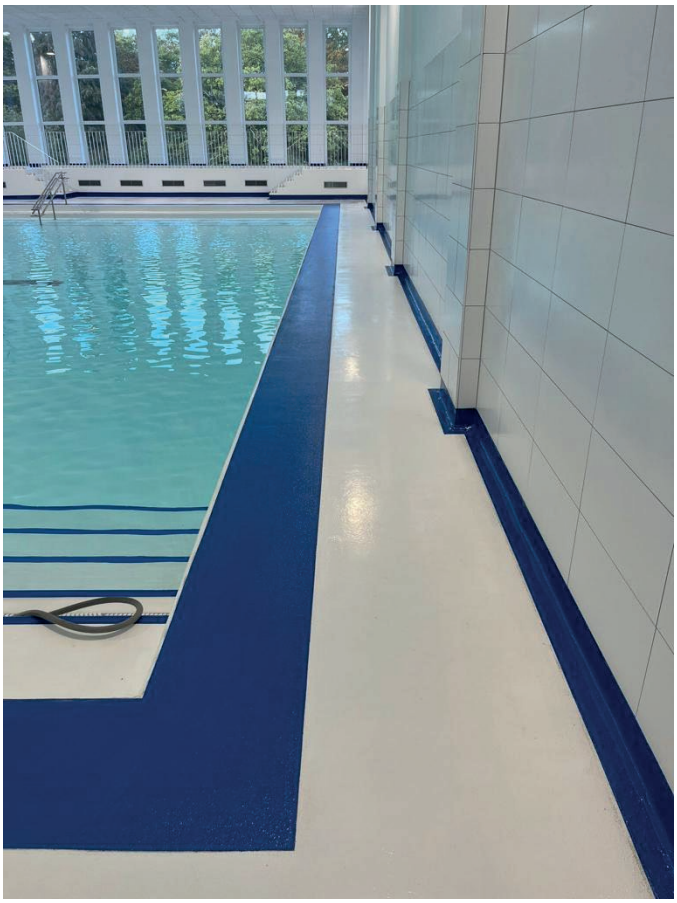
In the heart of Belgium, a waterproofing project was carried out on a magnificent 1300 square metre swimming pool. The magnitude of this aquatic space required a high quality, durable and reliable solution, and the chosen system not only met, but exceeded expectations.

Step 1
Priming with Primer 1020

Prior to any waterproofing procedure, it is essential to ensure that the surface is ready to receive the treatment. For this project, "Primer 1020" was chosen, a high-performance primer that guarantees perfect adhesion between the pool surface and the waterproofing membrane. This primer ensures that the surface is free of pores and provides a firm and even base for the following steps.

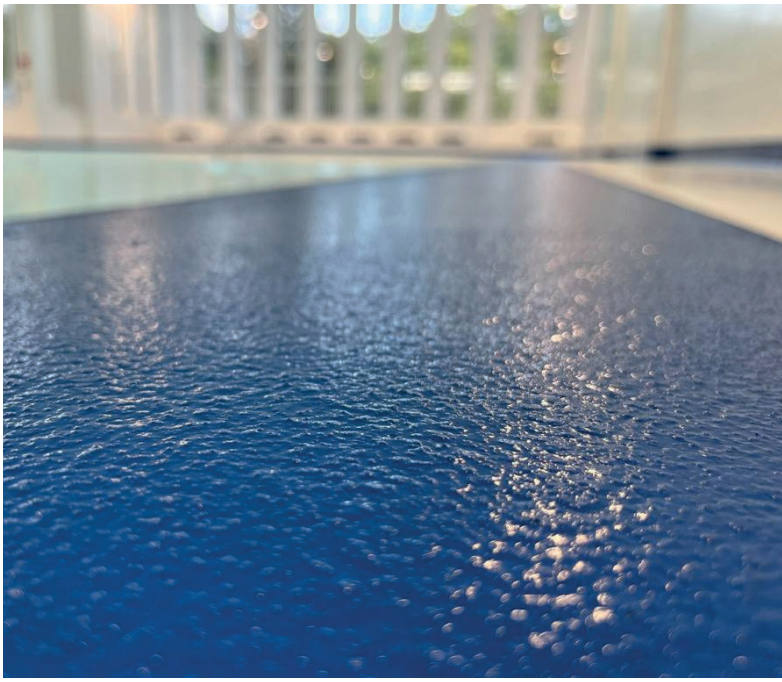
Step 2
Tecnocoat P-2049 Membrane Application

The choice of the "Tecnocoat P-2049" membrane was not by chance. This product is known for its exceptional water resistance, durability and ability to adhere to different surfaces. Its application forms a continuous barrier, without joints or overlaps, guaranteeing that every centimetre of the pool is protected against leaks and dampness. In addition, its flexibility allows it to adapt to the expansions and contractions that the structure may undergo over time, without cracking or losing its effectiveness.



Step 3
Sealing with Tecnotop 2CP

Finally, to ensure additional protection and to give the pool an impeccable aesthetic finish, "Tecnotop 2CP" was applied as a top coat. This top coat not only provides a glossy and attractive finish, but also offers additional resistance to UV rays, chemicals and abrasions. It also makes the pool easier to clean and maintain, ensuring that it retains its appearance and functionality for years to come.



European Organisation for Technical Assessment

RAISING THE STANDAR

TECNOCOAT H-2049 POLYUREA ETE CERTIFICATION UPDATE

The construction industry is a constantly evolving world, where innovations and improvements in materials and techniques are essential to provide more durable, safer and more efficient solutions. In this context, Tecnopol is once again at the forefront with an update of the ETE certification for Tecnocoat H-2049 polyurea, now extended to 25 years, with the inclusion of new primers.

The European Technical Assessment (ETA) is one of the most prestigious building certifications in Europe. This certification confirms that a product is suitable for its intended use and complies with the performance requirements set out in European regulations.

Tecnocoat H-2049:
A Constant Evolution

Since its introduction, Tecnocoat H-2049 polyurea has been recognised for its strength, flexibility and ability to adapt to a variety of applications. However, at Tecnopol, we understand that innovation is the key to success. That is why, in our constant search for excellence, we have decided to include new primers in the tests for this certification, further enhancing its properties and broadening its range of applicability.

Beyond Durability:
25 Years

The fact that Tecnocoat H-2049 ETE is certified for use for 25 years is a testament to the quality of this product. This approval reflects the durability and resistance of the product, even under the most demanding conditions.

New Primers:
Broadening Horizons

The inclusion of new primers in the ETE for Tecnocoat H-2049 polyurea not only improves the range of application possibilities, but also allows its use on a wider range of surfaces and contexts. These primers ensure perfect adhesion and enhance the effectiveness of the product, offering more versatile solutions for building professionals.

Tecnopol continues to demonstrate its commitment to excellence and innovation. The updated ETE certification for Tecnocoat H-2049 polyurea reflects this commitment and reaffirms Tecnopol's place as a leader in waterproofing solutions. **We are proud of this achievement and are confident that this product evolution will offer our customers even more robust and versatile solutions for their projects.**

THE IMPACT OF WATERPROOFING ON THE VALUE OF A PROPERTY

How good waterproofing can increase the market value of a home or building

Waterproofing, despite being one of the most essential preventive measures in construction, is often unfairly relegated to the background. However, its relevance goes beyond simple water protection; it has a direct and tangible influence on the market value of a property. Below, we explore in depth how effective waterproofing can be a valuable asset in the real estate sector.

Waterproofing and Structural Integrity

Water, in its various forms, is one of the most insidious enemies of any structure. Whether due to heavy rainfall, underground seepage or even internal condensation, moisture has the potential to compromise the integrity of a building from its foundations to its roof.

Effective waterproofing acts as a shield, defending the structure against these attacks and, consequently, prolonging its service life. Property buyers and valuers recognise the value of this protection, as a structure that has been carefully protected against water damage tends to have greater longevity and therefore a higher market value.

Health and Well-Being: The Crucial Role of Waterproofing

Moisture-related problems are not limited to structural damage. The prolonged presence of moisture in a building can encourage the growth of mould and bacteria. These micro-organisms can not only damage surfaces and objects within the property, but also pose significant health risks, such as allergies, asthma and other respiratory diseases.

Adequate waterproofing ensures a dry and healthy internal environment. For families and businesses, knowing that they are in a space free of mould and damp is a great advantage, and they are willing to invest more in properties that offer this level of protection.

Long-term economics: Reduced Maintenance Costs

A property that has been properly waterproofed is generally less likely to require costly repairs related to water problems. From roof repairs to fixing moisture problems in the foundation, the costs of addressing these problems can add up quickly.

Informed buyers are aware of these potential costs. A property that has been properly waterproofed is seen as a safer investment and can therefore command a higher selling price.

Energy Efficiency and Sustainability

In addition to water protection, waterproofing also contributes to the energy efficiency of the building. By effectively sealing a building against draughts and moisture, it helps to maintain stable indoor temperatures. This reduces the load on heating and cooling systems, leading to more efficient energy consumption and thus lower utility bills.

Waterproofing is an investment that offers significant returns, both in terms of structural protection and market value. In a competitive real estate market, where every detail may influence the perceived value of a property, waterproofing emerges as a determining factor. For owners, builders and buyers alike, understanding and appreciating the importance of effective waterproofing is essential to ensure the value and longevity of a property.

CASE STUDY
LUXURY PRIVATE RESIDENCE

In the heart of Vitacura, a prestigious residential area on the outskirts of Santiago de Chile, a majestic private residence redefines the concept of luxury and design. This property, composed of two buildings with different purposes, is a testimony to the perfect fusion of aesthetics and functionality.

The main structure, an imposing building, houses the high-end accommodation, designed for those with impeccable taste. Every detail, from its spacious interiors to its top quality finishes, reflects an unparalleled opulence. At the same time, the annex building is the perfect sanctuary for relaxation and recreation, especially in the summer months. With a spectacular swimming pool and leisure areas, it is the ideal place to relax and escape from the hustle and bustle of the city.

However, beyond its architectural design, what really sets this project apart is its commitment to durability and protection. The flat roofs of both buildings have been treated with a state-of-the-art waterproofing system. This technology has not only the European Technical Assessment (ETE 11/0357) according to the European guideline DEE 030350-00-0402, but also BBA 16/5340 and French DTA certifications. These accreditations ensure that the surfaces are completely watertight, thus protecting the integrity of the load-bearing structures of the house.

The Tecnopol system, applied in this project, has been carefully selected to offer maximum protection against the elements. With this level of detail and care, it is no wonder that this residence in Vitacura has positioned itself as one of the most coveted properties in the region.

For those seeking an unparalleled combination of design, luxury and durability, this residence in Vitacura is, without a doubt, a symbol of architectural excellence.

Methodology

Essential Support Requirements for Successful Implementation:

- **Moisture Evaluation in Concrete:** Before proceeding, a detailed assessment was carried out to determine the moisture content of the concrete substrate. This inspection ensures that the selected primer resin is the most suitable for the current conditions.

- **Weather Conditions:** It is vital that the ambient temperature is above 3ºC to ensure proper application and adhesion.

- **Cleaning the Surface:** At every stage of the application process, it is crucial that the surface is free of contaminants such as dust, residue or silicones. This cleaning ensures optimum adhesion and a quality finish.

Preparing the substrate and specific details

- **Levelling out the surface:** Careful sanding was carried out in specific areas where imperfections were detected, ensuring optimum levelling.

- **Thorough cleaning:** Subsequently, a thorough cleaning was carried out to remove any dust residue or leftover material, thus ensuring a clean surface ready for the next step.

The two-component epoxy resin **Primer EPw-1070** was then supplied and applied. This specially formulated resin acts not only as a sealant, but also as a surface adhesion enhancer. In addition, it has the remarkable ability to regularise the surface and absorb any residual moisture present on the substrate. To ensure complete and even coverage, it was meticulously applied with a short nap roller, distributing the product in two criss-cross layers.

The final consumption of this product was estimated at approximately 200-250 g/m^2. The essential features and functions of the Primer EPw-1070 are as follows:

- **Optimum sealing:** Ensures that the base substrate is completely sealed, protecting it from external factors.
- **Regularising the surface:** Helps to even out the surface to make it uniform, preparing it for the following treatment phases.
- **Adherence enhancer: Ensures superior chemical adhesion, consolidating the integration of the entire applied system.**
- **Moisture absorption:** Its specialised formula allows it to absorb any remaining moisture in the substrate, guaranteeing a solid and durable base.

Application of **Tecnocoat P-2049** pure polyurea liquid membrane

The Tecnocoat P-2049 membrane, a 100% pure polyurea-based waterproofing solution, was then applied. This membrane was applied in a continuous manner, bonded directly to the previous primer resin, without the need for joints or overlaps. The application was carried out using specialised equipment, in multiple criss-cross coats to achieve a recommended dry film thickness of 2 mm.

Tecnocoat P-2049 is a membrane with several certifications, including the European Technical Assessment ETE 11/0357, and an estimated service life of 25 years. It is remarkable for its tensile strength and its ability to elongate without breaking. In addition, it has anti-rooting properties and a Euroclass E fire rating. This product complies with various international standards, including those from Great Britain and France, and can be applied to a variety of surfaces, even those without a slope.

In summary, a high-quality membrane with a thickness of 2 mm was used to ensure optimal waterproofing and protection.

The Final Touch: Protective resin

Supply and application of aliphatic, coloured, glossy, solvent-based polyurethane resin Tecnotop 2C as UV protection for the waterproof membrane on flat or pitched roof coatings. Applied using a short pile roller in two criss-crossed coats or using electrical equipment.

Total consumption approx. 250 g/m^2.

COMMON ERRORS IN WATERPROOFING

A GUIDE TO IDENTIFYING AND AVOIDING THEM

Waterproofing is essential to protect structures against infiltration of water and other liquids. However, even with the best intentions, it is common to make mistakes that can compromise the integrity of a building. Here are the most common mistakes and how to avoid them

COMMON ERRORS IN WATERPROOFING

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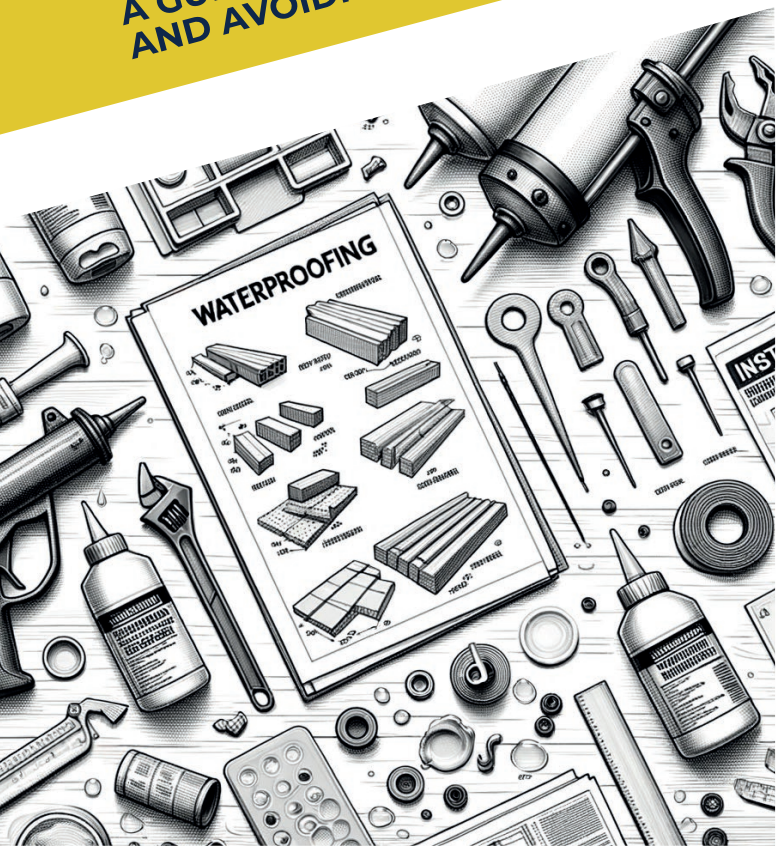
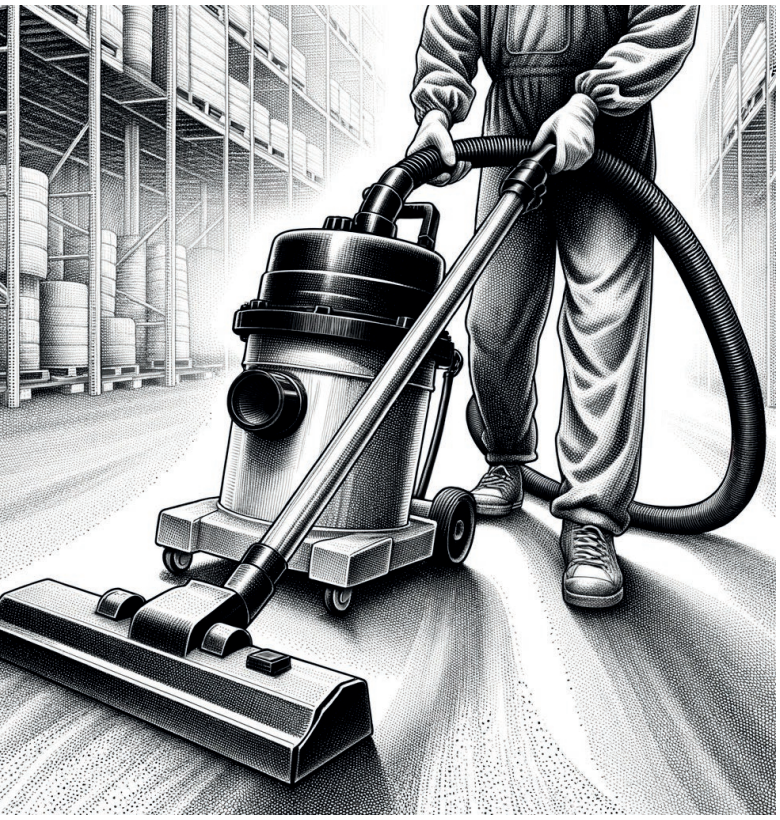


Choosing the wrong materials

Description: Choosing the wrong product can lead to poor waterproofing. Not all materials are suitable for all surfaces or conditions.

How to avoid this mistake

Research and select products specific to the surface and climate of the area to be waterproofed. Get advice from experts or manufacturers if necessary.



Not preparing the surface properly

Description: Dirty or uneven surfaces can prevent waterproofing products from adhering properly.

How to avoid this mistake

How to avoid this mistake: Clean and level out the surface before application. Remove any debris, dust or loose materials. Check the product or system datasheet to find out if any additional action is required

Incorrect application

Description: Uneven or insufficient application can leave vulnerable areas.

How to avoid this mistake

Follow the product and manufacturer's instructions to the letter. The manufacturer offers documents, videos and professionals who can advise you on the correct application of the product or system. Consider taking a course specific to the technology you are using.

Not taking the climate into account

Description: Waterproofing in adverse weather conditions may affect the effectiveness of the product.

How to avoid this mistake

Check the weather forecast. Avoid applying waterproofing products on rainy or extremely hot days. It is also important to check the relative temperature and humidity conditions of the substrate and to check the datasheet to make sure that you are within the correct application parameters. de aplicación.

COMMON ERRORS IN WATERPROOFING

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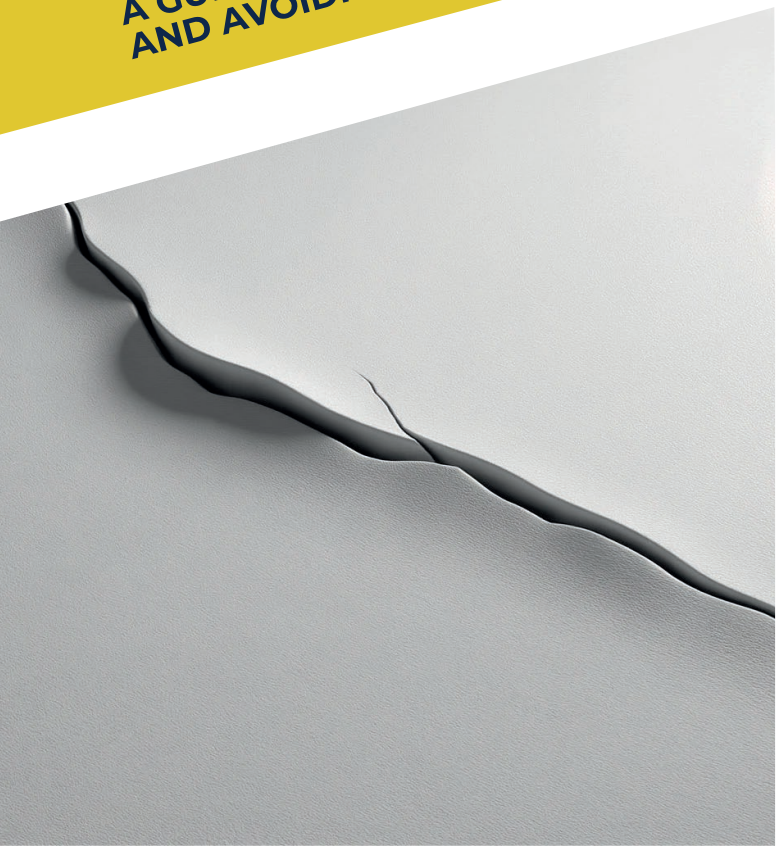


Ignoring joints and cracks

Description: These areas are often entry points for water.

How to avoid this mistake

Be sure to properly seal all joints and cracks before applying the waterproofing product. Specific products are available depending on the type of joint or crack. These are very delicate points that require special attention.

Not performing regular maintenance

Description: Over time, the waterproofing may become worn or damaged.

How to avoid this mistake

How to avoid this mistake: Periodic inspections and preventive maintenance are essential to ensure the durability and effectiveness of waterproofing systems. Repair any damage in time and you will avoid complaints from your customers. It is a good idea to offer follow-ups and maintenance as value-added services.

Low material consumption

Description: In order to save costs, less material than recommended is used or even diluted with other products or cheaper solvents.

How to avoid this mistake

The manufacturer of the product has carried out an infinite number of tests before putting it on the market, and often even has official certifications recommending a minimum consumption that ensures and guarantees watertightness. It is very important to always respect these minimum values to avoid costly problems

Using temporary solutions

Description: Quick and inexpensive solutions may not offer the long-term protection that is needed.

How to avoid this mistake

Invest in quality products and solutions. Although they may have a higher initial cost, in the long run, they can be more economical by avoiding costly repairs and damage.

Waterproofing is essential to protect structures and keep them in good condition for years to come. By being informed about common mistakes and how to avoid them, you can ensure that your waterproofing project is successful and long-lasting.

DRAINAGE SYSTEMS AND THEIR RELATION TO WATERPROOFING

How a good drainage system can complement and enhance the effectiveness of waterproofing.

Waterproofing is an essential tool to ensure the durability and safety of a structure. **But have you ever stopped to think about how an efficient drainage system can reinforce and maximise the work of waterproofing?**

In this article, we will take a closer look at the symbiotic relationship between these two components and how, working together, they can provide comprehensive protection for any building.

The Role of Drainage in Waterproofing

Water Control: While waterproofing prevents water ingress, drainage is responsible for directing the accumulated water away from the structure, thus avoiding hydrostatic pressure that could compromise the waterproofing barrier.

Flood Prevention: In areas prone to heavy rainfall or flooding, a good drainage system can be the difference between a dry basement and a flooded basement.

Types of Drainage Systems

Surface Drainage: These systems capture water at the surface before it has a chance to infiltrate into the soil or structure.

Underground Drainage: This is placed around the foundation of a structure and collects seeping water and redirects it away from the building.

Benefits of Integrating Drainage and Waterproofing

Greater Durability: The combination of both systems prolongs the life of the structure by preventing problems related to moisture and erosion.

Long-Term Cost Reduction: By preventing structural damage, costly repairs are avoided in the future.

Comfort and Health: It prevents the formation of mould and fungus, thus protecting the health of the inhabitants.

Tips for Successful Integration

Professional Evaluation: Expert judgement is essential to determine the specific drainage and waterproofing needs of each building.

Regular Maintenance: As with any system, it is essential to inspect and maintain both drainage and waterproofing to ensure its effectiveness.

Use of Quality Materials: Investing in high-quality products and systems ensures long-lasting and effective protection.

Waterproofing and drainage systems are two sides of the same coin when it comes to protecting a structure against water damage. By understanding the importance of each and how they can work together, it is possible to create a safe, dry and durable environment. Ultimately, a good drainage system not only complements waterproofing, but enhances it, ensuring maximum protection against water challenges.

TECNOPOL'S JOURNEY TO EXCELLENCE
ISO 9001 AND OUR CONTINUOUS IMPROVEMENT SYSTEM

Constant improvement is a philosophy that strives for excellence, and at Tecnopol, this approach is at the heart of everything we do. Recently, we have reached a significant milestone in our journey towards superior quality by obtaining the ISO 9001 certification: Quality Management Systems. But this achievement is not the end of the road, rather a starting point for a deeper analysis of our internal processes, constantly looking for improvement opportunities to raise our standards even higher.

ISO 9001: A Seal of Quality

ISO 9001 is more than a certification; it is an international recognition that a company adheres to rigorous quality standards. By achieving this distinction, Tecnopol has demonstrated its unwavering commitment to quality and customer satisfaction, supported by strong and effective internal processes.

Our Focus on Continuous Improvement

With ISO 9001 under our belt, we have not rested on our laurels. Instead, we have intensified our efforts to further refine our processes. Through meticulous analysis, we are identifying areas where we can be more efficient, more effective and ultimately deliver better products and services to our customers.

Analysing Internal Processes

At the heart of our improvement initiative is an in-depth examination of every internal process, from the procurement of raw materials to the delivery of the final product to the customer. In doing so, we uncover areas of potential improvement, whether by optimising our supply chains, improving our production methods or strengthening our communication channels with customers.

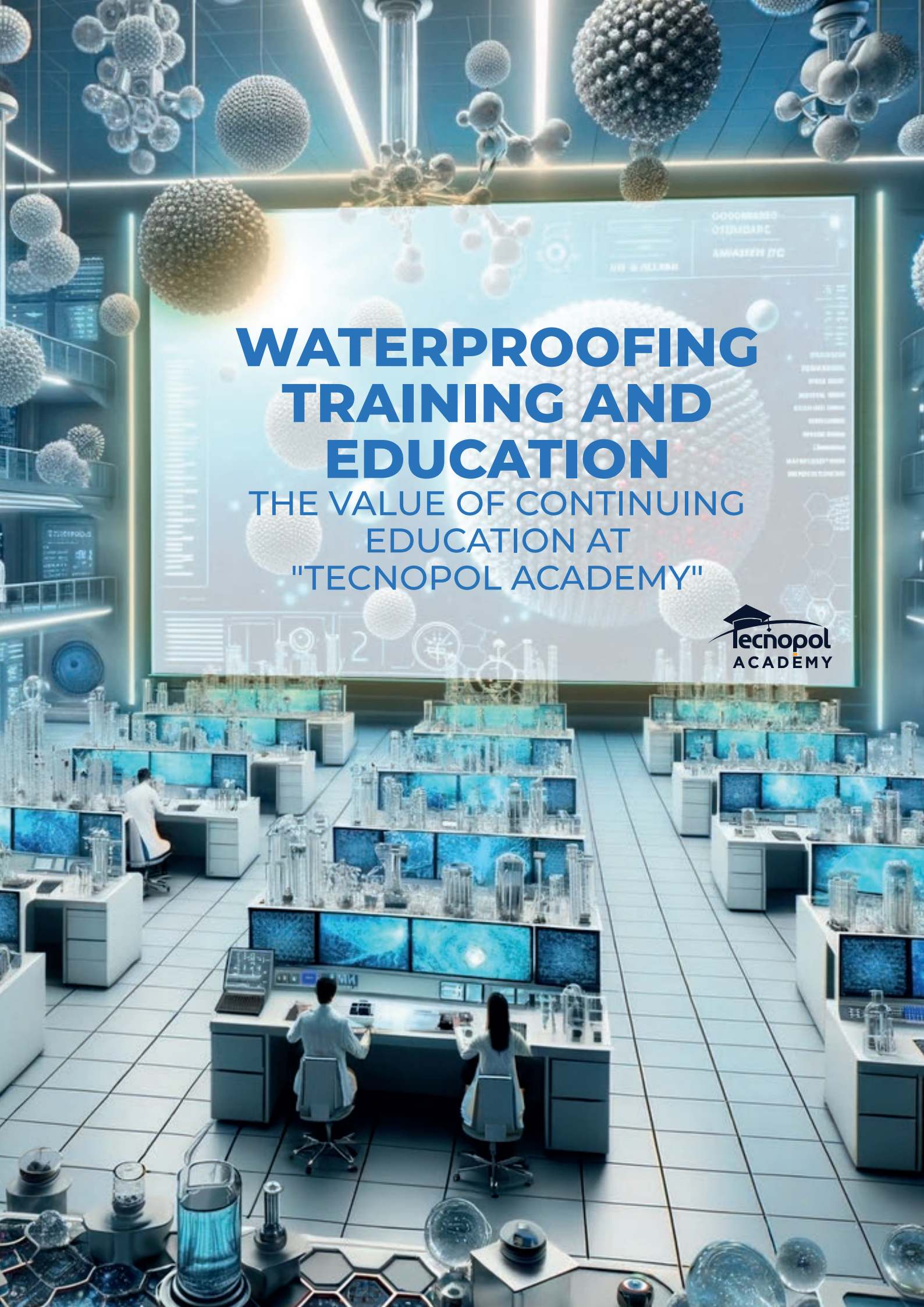
Opportunities Lie in the Details

Part of our approach involves understanding that sometimes the greatest opportunities for improvement are not obvious at first glance. They may lie in small details or aspects of the process that, when optimised, can have a significant impact on overall quality and efficiency.

Looking to the Future

As we celebrate obtaining the ISO 9001 certification, we are more focused than ever on the future. Continuous improvement is not a destination, but the beginning of a journey, and we are committed to moving forward, learning and adapting every step of the way.

At Tecnopol, quality is more than a goal; it is a way of life. Through our system of continuous improvement and with the guidance of ISO 9001, we are dedicated to exceeding our customers' expectations and establishing ourselves as a leader in our industry. It is an exciting journey and we are excited to share it with all our suppliers, employees and customers.



WATERPROOFING TRAINING AND EDUCATION

THE VALUE OF CONTINUING EDUCATION AT "TECNOPOL ACADEMY"

Tecnopol ACADEMY

In the dynamic world of construction and waterproofing, keeping up to date with the latest techniques, materials and methodologies is essential. It is not just a question of efficiency, but of safety, quality and compliance. In this context, "Tecnopol Academy" understands the importance of continuous training and certifications in the professional world of waterproofing.

Waterproofing: More Than a Technique, a Science

Waterproofing, at first glance, may appear to be a simple task. But in reality, it is a discipline that combines chemistry, physics and architecture. As technology advances, materials and techniques evolve, making continuous training crucial for any professional in the sector.

"Tecnopol Academy": Training Tomorrow's Experts

At "Tecnopol Academy", training is not only theoretical. Through a combination of master classes, practical workshops and on-the-job training, our clients have the opportunity to learn from the best in the business. The academy prides itself on its practical approach, ensuring that each student is ready to face any challenges they may encounter on site and can successfully solve them.

Certifications: A Seal of Professional Excellence

In the professional world of waterproofing, certification can make all the difference. Not only does it validate the individual's experience and expertise, but it also provides customers with the confidence that they are working with a true expert. "Tecnopol Academy" offers various certifications that guarantee that the holder is knowledgeable about Tecnopol products and their application techniques, ensuring that they are always one step ahead in the professional market.

The Importance of Continuous Updating

The field of waterproofing is one that is constantly evolving. New materials, techniques and challenges emerge regularly. That is why, at "Tecnopol Academy", training does not end once a certification is obtained. The academy offers refresher and update courses, ensuring that our customers are always up to date with the latest trends and developments.

Waterproofing, like many other disciplines in the construction world, requires a high level of skill and knowledge. Through the continuous training and certifications offered by the Tecnopol Academy, professionals can ensure that they not only meet, but exceed industry standards. In a world where quality and efficiency are key, the right training can make the difference between a good job and an exceptional one.

TECNOPOL AND THE POLYTECHNIC UNIVERSITY OF CATALONIA

A Pioneering Collaboration in the Study of Polyurea

In a world undergoing constant technological evolution, collaboration between industry and academia has become a key pillar in driving innovation and development. Within this context, Tecnopol, a leader in waterproofing solutions, has joined forces with the prestigious Polytechnic University of Terrassa to undertake two pioneering studies related to polyurea.

Protection and Resistance: Ongoing Studies

The research, entitled "Overprotection against impacts in concrete structures coated with polyurea" and "Increasing the strength of concrete structures protected with polyurea and immersed in saline environments", aims to further investigate the properties and benefits of polyurea, especially in the context of protection and strength.

A. OVERPROTECTION FROM IMPACTS

This study focuses on understanding how polyurea can act as an additional impact barrier in concrete structures. The research aims to determine how this coating can absorb and disperse impact energy, thereby reducing the risk of structural damage.

B. RESISTANCE IN SALINE ENVIRONMENTS

Given the increasing need to build in coastal areas or to build structures such as bridges or viaducts, this study is essential. It explores how polyurea can improve the strength of concrete when immersed in saline environments, reducing the corrosive effects and extending the life of the structure.

Bridging Theory and Practice

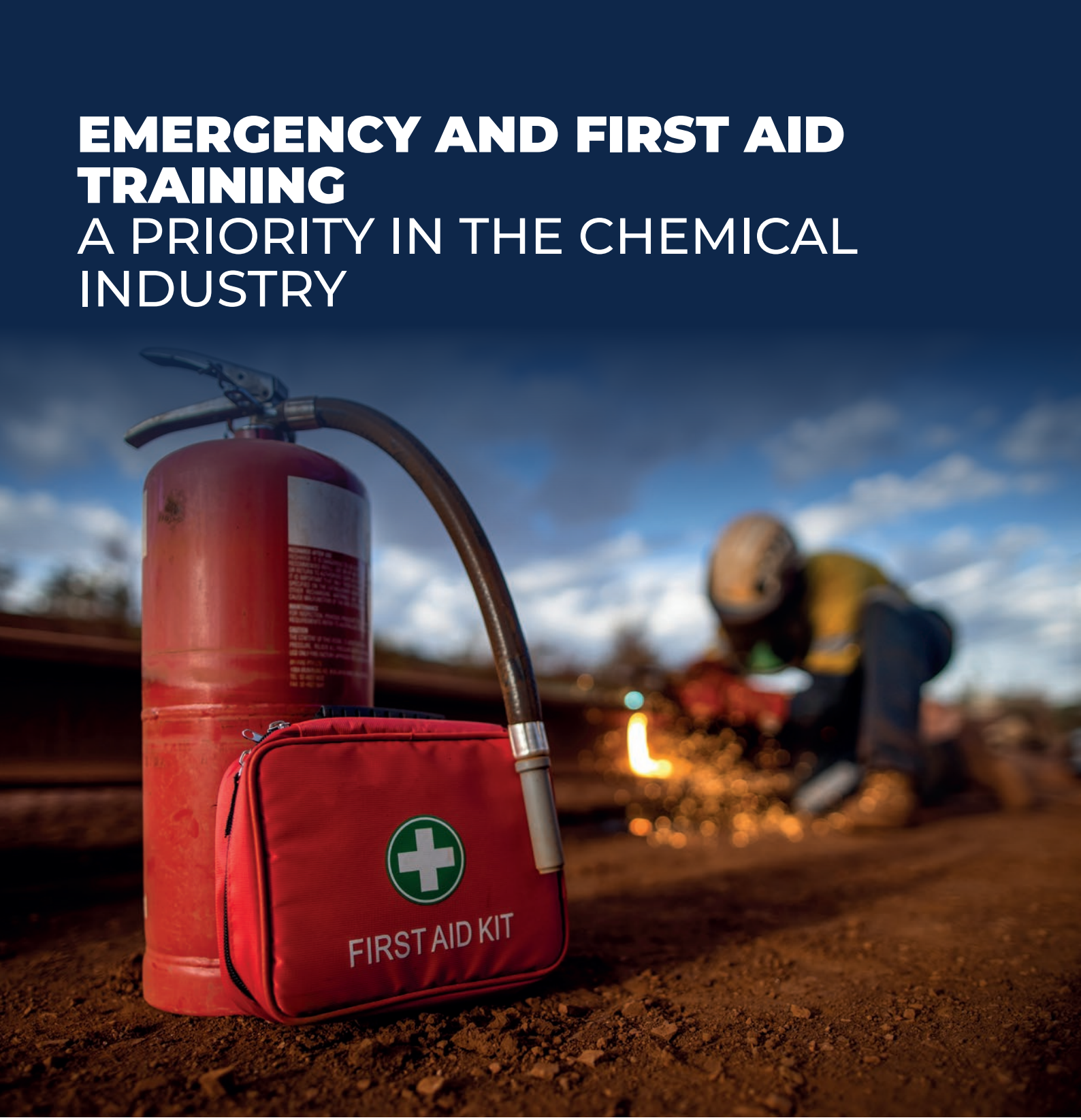
The collaboration between Tecnopol and the Polytechnic University of Terrassa represents a perfect balance between academic theory and practical application. While the university provides a scientific and methodological approach, Tecnopol provides real-world experience and know-how, making the results applicable and relevant to industry.

Implications and Future

The results of these studies will not only reinforce the position of polyurea as a leading solution in the construction market, but also open up new possibilities and applications for this material. Furthermore, this collaboration sets a precedent for future research and partnerships between industry and academia.

The collaboration between Tecnopol and the Polytechnic University of Terrassa demonstrates that when industry and academia join forces, groundbreaking innovations can emerge. We look forward to seeing the results of these studies and how they will influence the future of construction and structural protection. There is no doubt that polyurea and its applications have a bright future ahead of them.

EMERGENCY AND FIRST AID TRAINING
A PRIORITY IN THE CHEMICAL INDUSTRY



The chemical industry, with its complex operations and potentially hazardous substances, is a sector where safety cannot be an option, but must be a guarantee. In this scenario, emergency and first aid training is essential.

The very nature of the chemical industry entails risks. We are talking about the production, handling and storage of substances that may be toxic, flammable, corrosive or reactive. A mistake or an accident can have devastating consequences, not only for personnel but also for the environment and nearby communities.

When an emergency occurs, every second counts. Proper training ensures that employees not only know how to evacuate or protect themselves, but also how to respond to control the situation. Whether stopping a leak, neutralising a spill or administering first aid to an injured colleague, early intervention can minimise damage and save lives.

Fear and uncertainty can paralyse people during a crisis. However, when employees are well-trained, they have the knowledge and confidence to act decisively. They know what to do, how to do it and why it is important, which can make a significant difference to the outcome of an emergency.

In addition to being good practice, emergency and first aid training is often a regulatory requirement in the chemical industry. Complying with these standards not only avoids penalties and fines, but also reflects a company's commitment to the safety and well-being of its employees and the wider community.

Regular and up-to-date emergency and first aid training not only equips employees with essential skills, but also reinforces a culture of safety throughout the organisation. When security is a priority, it fosters an environment where employees are constantly vigilant, aware and proactive in their approach to risks.

Last November, Tecnopol carried out a specialised course in emergencies and first aid for its employees. This initiative reflects the company's dedication to cultivating a safe work environment and empowering our team with the skills necessary to deal with critical situations.

A Step Forward in Security

The industry in which Tecnopol operates, like many others, presents inherent challenges and risks. It is essential that each team member is equipped not only with the technical knowledge for their specific role, but also with the training to act in emergency situations. This course is a testament to how Tecnopol is taking proactive steps to ensure safety in the workplace.

Course Details

The course, taught by experienced professionals in the field of emergency and relief, covered a wide range of topics. From identifying and responding to chemical incidents to administering first aid in case of injury, employees received comprehensive, hands-on training. In addition, simulations of real-life situations were carried out so that participants could apply what they had learned in a controlled environment.

In a world where emergencies can be unpredictable, it is vitally important to be prepared. By investing in the training of its team, Tecnopol is not only raising safety standards within the company, but also sending a clear message: every employee is valuable and deserves to work in an environment where their safety and well-being are a priority.

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