

Central role of waterproofing chemicals in enhancing the strength and durability of building structures.

By Dr. Aparna Kumar Managing Director Tech-Dry India

Tech Dry India is a strong niche player in the market of construction chemicals. We started out in 1992 through a collaboration with Tech Dry Australia, as a manufacturer of 4th generation waterproofing chemicals. In the most simplistic of terms, waterproofing is understood as the way to stop water leakage. A broader view appreciates that waterproofing can prevent water leakage and the resulting damage to structures and life. A more comprehensive view is that the use and correct application of specific waterproofing chemicals can significantly make the structure stronger, more durable, safe and hygienic. Additionally, waterproofing of buildings can help enhance their natural appearance and protect them from environmental pollutants.

Led by my father, Dr. Surendra P. Bhatnagar, well known in the scientific industry as a talented organic chemist, Tech Dry India rapidly gained and maintains, a market reputation for offering novel, water-based, waterproofing products. Early on we understood that to offer products that could provide true and long-lasting solutions to our customers, we had to really understand the challenges they face. In 1993, partnering with Mr. R.N.Kaura who is a distinguished graduate of IIT, Delhi, we established Building Protection Systems, better known in the industry as BPS, an applicatorship, that using Tech Dry products, has waterproofed and protected over 10K buildings in Bangalore alone. Having both the R&D and applicatorship in-house allowed Tech Dry to gain deep understanding of the materials and methods used in construction.

As a team of scientists, through strong R&D, Tech Dry India expanded it's products to encompass waterproofing solutions for the entire building structure. Additionally, we worked closely with our direct customers to establish successful treatment methods for most construction industry waterproofing issues. Most of our long-standing relationships with leading industry players including consultants, architects, builders and contractors are the result of the quality and extensive range of Tech Dry's products that offer real solutions.

My father was a strong proponent of the fact that no one product can offer waterproofing solutions to all building problems. As a true scientist he immersed himself in understanding the chemistry of construction materials and often said that waterproofing is a combination of chemistry and civil engineering. The construction chemicals we manufacture are those that have been specifically tailored to provide an increase in durability and strength of basic construction materials. Durability and strength of concrete structures can be directly influenced by reducing the absorption of water. Therefore, understanding the chemical reactions and nature of the construction materials used is paramount to success. We in India are blessed to be from an ancient culture that has given us a land richly dotted with ancient heritage structures that have survived hundreds of years of civilization. Testament to the fact that the construction practices as well as the purity of the materials used. The modernization of the world has created an increasingly polluted environment that has left numerous buildings old and new, facing an alarming number of detrimental problems. Water entering walls rusts reinforcement beams while moisture penetration carries chloride, CO₂ and other ions into the structure commonly referred to as carbonation and corrosion.

Tech Dry prides itself at being able to offer a variety of products that are all environmentally and user responsible. While we manufacture over 100 products, some exciting products we'd like to highlight are:

- Waterproofing admixtures
- Anti-carbonation and anti-corrosion products
- Water repellancy for aesthetic and structural protection
- Elastomeric coatings that remain breathable not trapping water inside
- Grouting
- Crystalization and porosity reducing agents for concrete
- Expansion joint treatment

Protekta KR2 is an excellent waterproofing admixture. Protekta Emulsion KR-2 is a unique emulsion waterproofing admixture for concrete and mortar. Tests show that it can reduce water absorption by over 90%.

Protekta Silane Cream is an advanced **anti-corrosion and anti-carbonation** product. Silane is one of the most effective water repelling molecules. As Protekta Silane Cream is thixotropic, it allows the silane to remain on the concrete surface longer, and penetrate deeper into the surface. In accelerated tests of Protekta Silane cream treated concrete a four time reduction in carbonation and corrosion of concrete reinforcement was achieved.

Protekta Micro Emulsion is a fantastic water repellancy product. The exterior surface of buildings face the onslaught of weather and pollution. Tested at Central Electro Chemical Research Institute (CECRI), the chloride permeability delays time-to-corrosion by up to four times when compared to untreated concrete.

Protekta Unicoat is an exceptional elastomeric coating offering excellent weather resistance and toughness and is an anti-chloride and anti-carbonation surface coating. Like our other elastomeric coatings, it is flexible, breathable, crack-bridging with high elongation and weatherability.

Our selection of **grouting products such as Protekta MS and SS** support the grouting requirement sometimes as a single product and at others a combination.

Protekta Base is a crystallization and porosity reducing, product for concrete with which we have had great success in our treatment of concrete, brick bat coba and other rehabilitation treatments.

PROTEKTA EJR is specially developed for expansion joints, which unlike silicones, can very well withstand exposure to water. This product can also withstand positive and negative hydrostatic pressure. Expansion joints are periodical breaks or gaps in the structure to allow movement caused by expansion and contraction because of temperature fluctuations.

Tech Dry India (Pvt) Ltd. offers a wide selection of waterproofing chemicals that are simple to use and offer unmatched solutions to waterproofing needs. Further information can be obtained at www.techdryindia.com Our Mission has been to bring quality products to market that are technologically advanced, enhance safety and durability of buildings and protect our environment.