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SEAL IT RIGHT FROM THE START

Why ADT Mix LW+ Is India's Smartest Integral Waterproofing Solution

BY ADT INDUSTRIES PVT. LTD.
EXPERT
TRUSTED BY ENGINEERS NATIONWIDE

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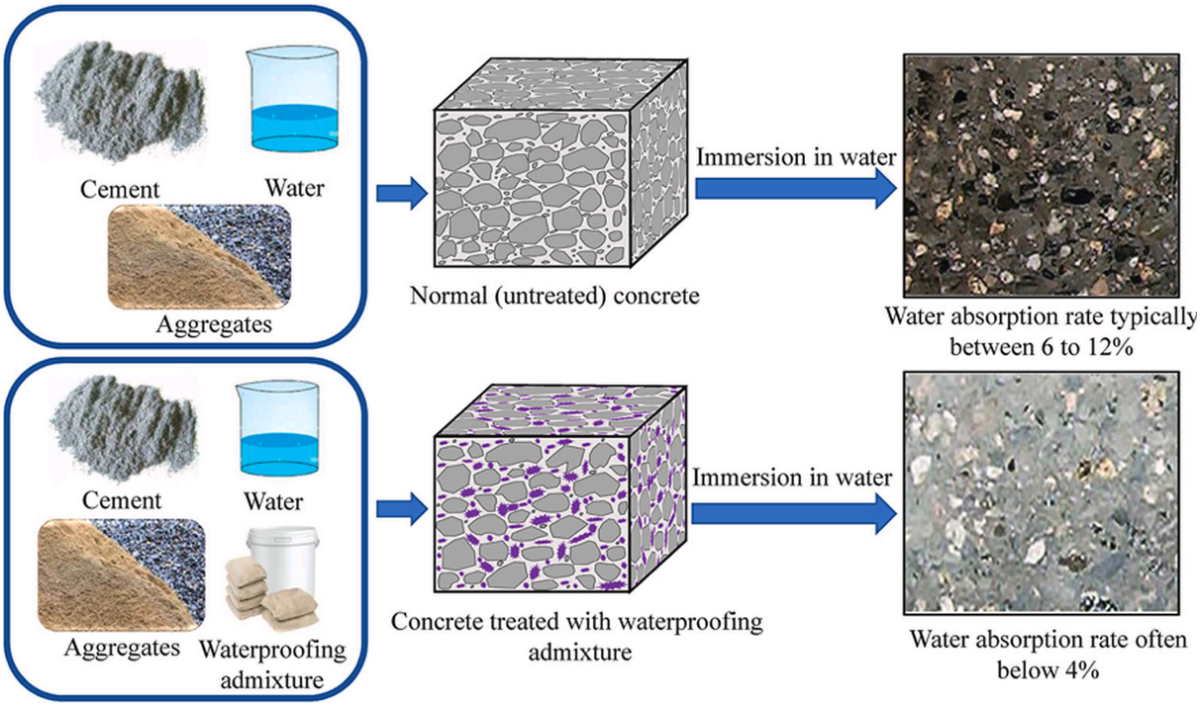
INTRODUCTION TO INTEGRAL WATERPROOFING

Concrete and mortar may appear strong, but without integral waterproofing, they're vulnerable to their greatest enemy: **water ingress**. Concrete is inherently porous, with microscopic capillaries that allow water to seep through, bringing along salts, chemicals, and moisture that degrade structural integrity over time. These issues become especially serious in climates like India's, marked by heavy rainfall, high humidity, and exposure to harsh environmental conditions.

Integral waterproofing addresses this vulnerability at the root level. Instead of applying waterproofing treatments externally (like membranes or coatings), integral waterproofing is incorporated directly into the concrete mix through specialized admixtures. These admixtures react chemically with cement compounds to form water-insoluble structures, effectively sealing pores and blocking capillary pathways.

The result? A permanent barrier against moisture that forms part of the concrete itself.



IDEAL FOR ALL CONSTRUCTION TYPES

- Foundations, basements, and retaining walls
- RCC roofs and screeds
- Tanks, sumps, pools, and water treatment plants
- Bathrooms, balconies, podiums, and utility slabs
- Precast elements and ready-mix applications

ADT Mix LW+ is the modern response to this industry need, offering advanced internal waterproofing based on hybrid SNF + PC chemistry. It's time to waterproof from the inside out.

CONSTRUCTION'S INVISIBLE THREAT

INTERNAL MOISTURE DAMAGE

Water may seem harmless, but in concrete structures, it can be highly damaging. Concrete contains micro-pores that allow water and dissolved salts to penetrate deeply, even without visible cracks. This leads to a destructive chain reaction:

- **Corrosion of Reinforcement (Rebars):** Water and chlorides disrupt the protective alkalinity of cement, causing rust and expanding steel, which cracks the surrounding concrete

- **Efflorescence:** Moisture dissolves minerals that crystallise on the surface as white stains, indicating deeper water movement and potential durability issues
- **Mould & Indoor Air Quality:** Areas with frequent moisture absorption promote biological growth, reducing air quality and posing health risks
- **Cracks from Thermal Expansion:** Trapped water expands during temperature changes, leading to internal stress and microcracking
- **Compromised Load-Bearing Capacity:** Continuous moisture exposure weakens concrete, affecting strength and structural integrity
- **Increased Costs:** Moisture issues result in frequent repairs and higher lifecycle costs

WHY IT GOES UNNOTICED

Damage often starts internally, and traditional surface waterproofing may miss hidden vulnerabilities. Early moisture ingress can remain undetected until after use.

CONSEQUENCES OF IGNORING WATERPROOFING

Major repair costs within 2–5 years, customer dissatisfaction, compromised structural integrity, and loss of trust for builders.

This highlights the importance of integral waterproofing with admixtures like ADT Mix LW+, which prevents water ingress from the start.

WHY INTERNAL WATERPROOFING MATTERS

Internal waterproofing is essential in modern construction. Unlike surface waterproofing techniques, which only offer superficial protection after concrete hardens, internal waterproofing addresses moisture risks from the start, making the concrete itself more resilient.

WHY INTERNAL WATERPROOFING MATTERS

- **Long-lasting Protection:** Integral waterproofing becomes part of the structure, continuously repelling moisture without maintenance
- **Comprehensive Coverage:** Internal admixtures like ADT Mix LW+ ensure every grain of cement contributes to waterproofing, eliminating weak spots
- **Resistance to All Water Pressures:** Protects against both positive and negative water pressures, making it ideal for basements
- **Reduced Risk of Damage:** Minimizes moisture-related issues like cracking and efflorescence by enhancing concrete density
- **Cost Efficient:** While initial costs for additives may appear higher, they reduce long-term repair and maintenance expenses
- **Compatibility with Modern Practices:** Perfect for fast-paced construction environments, including ready-mix and precast segments

KEY APPLICATIONS

- **Infrastructure:** Metro tunnels and underpasses
- **Residential & Commercial:** Roof slabs and bathrooms
- **Industrial:** Chemical plants and wash zones
- **Water-retaining Structures:** Tanks and swimming pools

By incorporating internal waterproofing with advanced mixes like ADT Mix LW+, builders safeguard their projects against water damage efficiently and effectively.

PAIN POINTS WITH TRADITIONAL METHODS

Despite advancements in building science, many construction projects still rely on outdated surface waterproofing methods that address symptoms rather than root causes. These methods treat the surface, not the source.

KEY PAIN POINTS:

1. Surface Dependency & Inconsistent Coverage: Traditional products like bituminous membranes are prone to human error during application, leading to weak spots that allow water penetration, resulting in internal seepage or mold

2. Aging & Deterioration: Surface treatments degrade over time due to exposure to elements, losing water resistance and aesthetic value. For example, acrylic coatings can chalk or yellow within 2–3 years

3. No Protection for Microcracks: Moisture can infiltrate through internal pores and microcracks, leading to undetected corrosion of steel reinforcements and internal damage

4. Complex Application Process: Surface waterproofing often involves multiple steps that are sensitive to weather conditions, resulting in delays and increased labor costs

5. Poor Compatibility with Modern Challenges: Fast-moving construction environments find traditional waterproofing solutions inadequate, as they can't be applied in damp conditions or accommodate high-rise complexities

6. Difficult Repairs: Failures in surface systems often require expensive full reapplications, causing operational disruptions and potential liability issues

THE INDUSTRY SHIFT

With evolving site complexities and environmental pressures, the industry needs more reliable, efficient, and integrated waterproofing solutions. ADT Mix LW+ offers a revolutionary approach by modifying the concrete itself to prevent water issues rather than just responding to them.

INTRODUCING ADT MIX LW+

ADT MIX LW+: REVOLUTIONIZING WATERPROOFING SOLUTIONS

As traditional waterproofing methods face increasing limitations, ADT Industries introduces a game-changing product: ADT Mix LW+. This high-performance, ready-to-use liquid integral waterproofing admixture is engineered for concrete and mortar applications, shifting the focus from surface defences to effective internal protection.

OVERVIEW OF ADT MIX LW+

ADT Mix LW+ is a brown liquid admixture that integrates seamlessly into the mix. Upon addition, it chemically interacts with cement hydration by blocking capillaries and micro-pores while physically enhancing the particle packing and reducing the water-cement ratio. Its dual action provides both chemical and physical benefits:

- **Chemical Action:** Forms insoluble crystalline structures that effectively seal internal voids
- **Physical Action:** Enhances mix cohesion, densifies the concrete, and prevents issues like segregation or bleeding

INGREDIENTS AND TECHNOLOGY

The efficacy of ADT Mix LW+ lies in its unique formulation, which combines:

1. SULPHONATED NAPHTHALENE FORMALDEHYDE (SNF)

- Acts as a traditional plasticizer
- Reduces the water-cement ratio for improved mix fluidity
- Enhances flow and dispersion within the concrete mix

2. POLYCARBOXYLATE ETHER (PC)

- Serves as a next-generation dispersing agent
- Increases slump retention, maintaining workability during application
- Refines the internal structure of hardened concrete for greater durability

SYNERGISTIC BENEFITS OF SNF AND PC

The combination of SNF and PC creates a hybrid chemistry that promotes long-lasting impermeability, superior strength, and optimal workability. This makes ADT Mix LW+ particularly effective in challenging environments, such as coastal and high-humidity areas, providing robust protection against water intrusion.

This isn't just a waterproofing product—it transforms your concrete from the inside out.

WHAT MAKES ADT MIX LW+ STAND OUT?

Feature	Traditional Admixtures	ADT Mix LW+
Chemistry	SNF / Melamine	SNF + PC Hybrid
Water Reduction	5–10%	Up to 15%
Slump Retention	Low	High
Shrinkage Control	Moderate	Excellent
Durability	Average	Exceptional
Pore Sealing	Limited	Dense Matrix
Reinforcement Corrosion Control	Inconsistent	Excellent
Compatibility	OPC-focused	Works with OPC, PPC, slag cements

KEY FEATURES & BENEFITS

ADT Mix LW+ stands out in the waterproofing admixture market due to its advanced engineering, dual-action performance, and reliability. Here are its key features:

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APPLICATION GUIDE FOR MAXIMUM EFFECTIVENESS

ADT Mix LW+ is a waterproofing admixture for concrete and mortar, ensuring uniform dispersion.

RECOMMENDED DOSAGE:

- **Concrete:** 100–250 ml per 50 kg of cement (0.2%–0.5% by weight)
- **Mortar:** Similar dosage, adjust for consistency; higher for critical areas like pools and basements

APPLICATION STEPS:

1. **Measure** ADT Mix LW+ based on cement quantity
2. **Pre-mix** with gauging water (avoid dry cement contact)
3. **Combine** the mix with concrete or mortar
4. **Add** the remaining gauging water
5. **Mix** thoroughly for 3–5 minutes
6. **Place and finish**; no interference with tools
7. **Cure** for 7–10 days

USES:

- **Concrete:** Roof slabs, foundations, RCC tanks
- **Mortar:** Plaster, brick/block laying
- **Special:** Swimming pools, industrial floors

BEST PRACTICES:

- Shake well before use
- Avoid overdosage and protect from quick drying
- Store in a cool, shaded area (shelf life: 18 months)
- Keep the site clean to prevent contamination

ADT Mix LW+ improves waterproofing efficiency without the need for specialised labour.

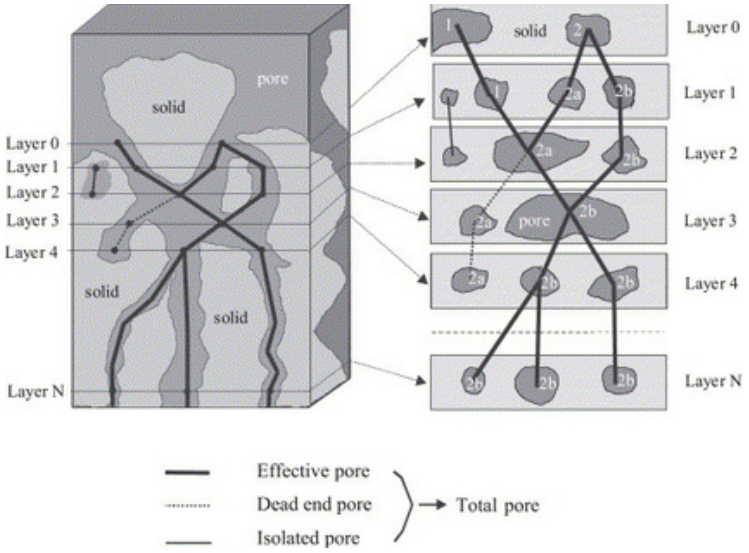
SCIENCE BEHIND THE TECHNOLOGY

ADT MIX LW+ OVERVIEW

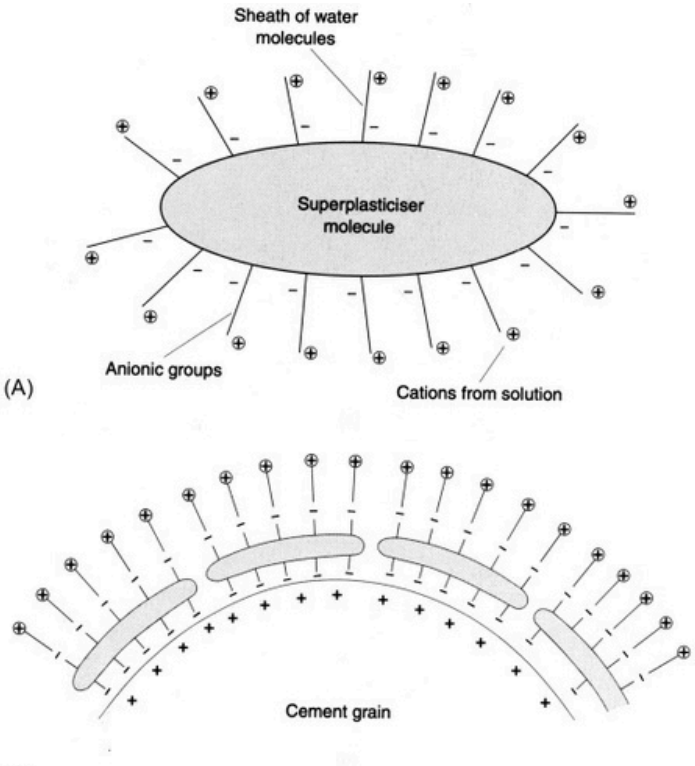
ADT Mix LW+ is a user-friendly waterproofing admixture designed for optimal performance in concrete and mortar applications. This chapter outlines the application process, dosage, and usage guidelines.

1. CEMENT CHEMISTRY AND CAPILLARY PORES

When cement hydrates, it forms calcium silicate hydrate (C-S-H), which gives concrete its strength. However, this process also generates calcium hydroxide ($Ca(OH)_2$), a water-soluble byproduct that leaves behind microscopic capillaries. These internal pores act as highways for moisture and salts.



2. ROLE OF SNF + PC IN ADVANCED PERFORMANCE



Sulphonated Naphthalene Formaldehyde (SNF):

Acts as a dispersant and plasticizer

Improves cement particle distribution

Reduces water requirement up to 10%

Polycarboxylate Ether (PC):

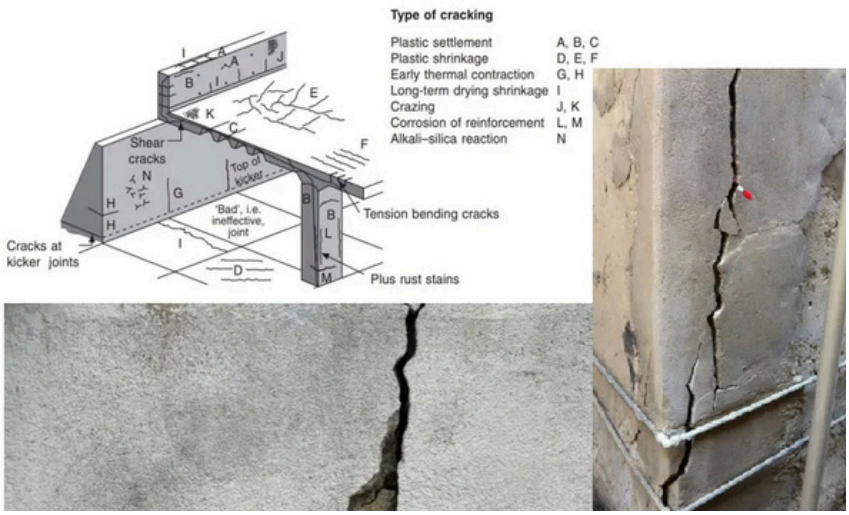
- Provides advanced slump retention
- Creates long polymer chains that wrap around cement particles
- Enhances flow and reduces porosity

3. PORE BLOCKING AND SHRINKAGE CONTROL

Beyond waterproofing, ADT Mix LW+ enhances dimensional stability:

- Minimizes plastic and drying shrinkage
- Reduces internal stress during curing
- Blocks water pathways without affecting strength

Concrete treated with ADT Mix LW+ shows a significant drop in water absorption and shrinkage cracking, even under temperature or load variations.



LAB-TESTED PERFORMANCE METRICS

- **Water Penetration Test (IS:2645-2003):** Over 80% reduction in water ingress
- **Compressive Strength:** Retains or improves compressive strength when water dosage is controlled
- **Permeability Index:** Significantly reduced compared to untreated concrete
- **Chloride Migration Resistance:** Enhanced protection against corrosion of reinforcement

SUMMARY

ADT Mix LW+ provides:

- Permanent sealing of pores
- Reduced permeability and cracking
- Protection against aggressive salts and moisture
- Long-lasting durability in concrete

INGREDIENT EVOLUTION

FROM SNF TO SNF + PC

THE EVOLUTION STORY

Waterproofing admixtures have advanced from basic water-reducing agents to high-performance systems. The transition from older SNF and Melamine-based admixtures to a hybrid system of Sulphonated Naphthalene Formaldehyde (SNF) and Polycarboxylate Ether (PC) marks a generational leap in waterproofing efficiency.

THE EARLY DAYS: MELAMINE AND SNF

Melamine-based admixtures improved workability and early strength but were brittle and had low durability. They were later replaced by SNF, offering better water reduction while enhancing performance.

PERFORMANCE COMPARISON

Parameter	SNF Only	PC Only	SNF + PC (ADT Mix LW+)
Water Reduction	**8–10%**	**12–20%**	**Up to 15%**
Slump Retention	**Low**	**High**	**Balanced**
Shrinkage Resistance	**Moderate**	**Good**	**Excellent**
Dosage Range Flexibility	**Moderate**	**Low**	**High**
Cost-to-Performance Ratio	**Good**	**High**	**Optimized**
Compatibility	**OPC, PPC**	**OPC preferred**	**All cement types**

SNF + PC SYNERGY

SNF enables quick cement particle dispersion and rapid initial hydration, essential for busy job sites. PC provides long-term water reduction and enhanced pore structure, preventing early slump loss in challenging climates.

COMBINED BENEFITS:

- Cohesive, low-permeability mixes that resist cracking and shrinkage
- Uniform, durable concrete suitable for waterproofing in various sectors, from housing to industrial projects

IMPORTANCE FOR BUILDERS & ENGINEERS

- Longer Working Time: More flexibility for placement in congested areas
- Improved Finish: Smoother surfaces with less need for plastering
- Stronger Concrete: Increased compressive strength due to reduced water use
- Climate Versatility: Consistent performance in both humid and dry environments

HOW SNF + PC WORK TOGETHER

- **SNF** ensures quick dispersion of cement particles and allows faster initial hydration. This is crucial on busy job sites where mixing time is limited.
- **PC** offers long-term water reduction, refined pore structure, and prevents early slump loss—even in hot, humid, or windy climates.
- **Combined Effect:** More cohesive, low-permeability mixes that resist cracking, efflorescence, and shrinkage.

This synergy creates uniform, compact, and high-durability concrete, ideal for internal waterproofing applications across verticals—from housing and infrastructure to industrial projects.

WHY THIS MATTERS FOR BUILDERS & ENGINEERS

- **Longer Working Time:** More flexibility in placement, especially for verticals and congested sites
- **Improved Finish:** Smoother surfaces with reduced plastering needs
- **Less Water = Stronger Concrete:** Increased compressive strength and durability
- **Versatile Across Climates:** Performs consistently in both coastal humidity and dry interiors

ENVIRONMENTAL COMPLIANCE & SAFETY ASSURANCE

In today's construction industry, performance is just one aspect; sustainability, safety, and ecological impact are equally crucial. ADT Mix LW+ waterproofs responsibly, adhering to modern green building practices.

KEY COMPLIANCE AND SAFETY FEATURES:

- **Industrial Sheds:** Controlled thermal cracks
- **Tunnels:** No seepage recorded
- **Precast Projects:** Improved finishes and eliminated absorption

- **IS:2645-2003 Compliance:** Fully compliant with the Bureau of Indian Standards, ensuring rigorous testing for structural applications
- **Non-Toxic for Potable Water:** Certified safe for drinking water tanks and pipelines, making it ideal for schools, hospitals, and food-processing areas
- **Chloride-Free, Sulfate-Free, Alkali-Safe:** Prevents steel reinforcement corrosion, ensuring long-term structural integrity
- **Long Shelf Life (18 Months):** Stable for 18 months under proper storage, available in 20 kg cans and 250 kg drums for efficient inventory management
- **VOC-Free and LEED-Compliant:** Contains zero VOCs, contributing points to green building certifications and promoting indoor air quality
- **Manufactured Sustainably in ISO-Certified Plants:** Produced using efficient energy practices and responsible chemical sourcing

ADT Mix LW+ is technically superior, environmentally safe, and aligned with long-term sustainability goals, making it an ideal choice for modern construction projects.

CONCLUSION

The move from SNF-only systems to SNF + PC hybrid technology is not just chemical progress—it's practical innovation. ADT Mix LW+ embodies this evolution, giving today's construction professionals a smarter, stronger, and more reliable way to waterproof from the inside out.

REAL-WORLD RESULTS
PROJECTS THAT PROVE THE POWER

In construction, true success is measured by real-world performance. ADT Mix LW+ has been rigorously tested across India, excelling in extreme conditions and complex challenges.

🏗️ BASEMENT WATERPROOFING

- **Challenge:** High groundwater zone with persistent hydrostatic pressure led to membrane failures
- **Result:** No seepage or maintenance issues after two monsoons, satisfying the client with reduced budget needs

🏢 HIGH-RISE RESIDENTIAL TOWERS

- **Challenge:** Tenants reported dampness and peeling paint
- **Result:** Damp patches eliminated and zero call-backs over 24 months

🚰 RCC WATER TANKS

- **Challenge:** Cracking membranes caused contamination
- **Result:** No leakage after 36 months of service; water quality remained intact

,🏘 AFFORDABLE HOUSING SCHEMES

- **Challenge:** Cost-sensitive construction with post-handover issues
- **Result:** Water-related damage complaints reduced by over 80%; formal appreciation received

ADDITIONAL HIGHLIGHTS:

- **Industrial Sheds:** Controlled thermal cracks
- **Tunnels:** No seepage recorded
- **Precast Projects:** Improved finishes and eliminated absorption

BOTTOM LINE:

From basements to smart cities, ADT Mix LW+ ensures reliable waterproofing performance. When durability is crucial, it proves itself beyond lab results, impacting real structures and lives.

FOR MORE INFORMATION OR TO PLACE AN ORDER, REACH OUT TO ADT INDUSTRIES

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