

Manufacturers of the world's most technically advanced systems for permanent concrete repair, moisture proofing and protection treatments.

Summary Introduction to Hydration Maximizer

MIX WATER ENHANCER™

**Hydration Maximizer
for Extraordinarily
Impermeable,
High Performance
Concrete**



**THE NAME
SAYS IT ALL**

混合水增强剂™

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简要介绍水化增强法

Hydration Maximizer for Extraordinarily Impermeable, High Performance Concrete

异常不透水、高性能混凝土的水化增强法

“Mix Water Enhancer™ is a safe user-friendly liquid, that when added to a Portland cement mix, effectively, and without complexity, converts a conventional Portland cement concrete design into very workable, high-performance / high-quality / high-durability concrete mix. This “converter” product possesses unique ability to consistently, significantly enhance every critical performance criteria (including permeability) that is associated with Portland cement concrete.

“混合水增强剂™”是一种安全使用的液体，当加入普通水泥拌浆中，有效和简易地将传统普通水泥混凝土转化成为一种可用性，高性能，高质量，高耐久性的混凝土拌合料。这种产品拥有一种独特的能力，它能协调一致，明显地符合每个与普通水泥混凝土有联系的关键性能指标(包括透气力)。

As this product's label name of Mix Water Enhancer™ (Hydration Maximizer) implies, this extremely unique one of a kind product provides Portland cement concrete mixes with the most maximum and most beneficial degree of hydration currently possible, generating the consistent production of significantly increased volumes of hydrate product (C-S-H), during hydration, in a shorter period of time than in a normal mix, producing significantly increased volumes of C-S-H which greatly lower the resultant concrete's capillary pore sizes while also increasing the utilization of the concrete's available mix water volume, which significantly diminishes the concrete's end-result and ultimate permeability factor. Mix Water Enhancer™ poses no threat to our environment nor does it require special handling, storage, or curing procedures, plus it already has been thoroughly tested in the laboratory, and extensively utilized in a variety of projects.

由于这款名为混合水增强剂™(水化增强法)的产品标签，意味着这是一种非常特殊和独一无二的产品。它为水泥混凝土搅拌提供了最高与最有利及目前可能的水化程度，出产符合生产的大幅增长水化物产品(硅酸钙水合物)。在水化期间，花用一个比普通搅拌短的时间、产出产量大幅增长硅酸钙水合物产品，由此大大减小了混凝土的毛细管孔径，同时也增加对混凝土可有混合水量的利用，这大大削减了混凝土的渗透因素，以显示其最终结果。混合水增强剂™对我们的环境不构成任何威胁，也不需要特别的处理，储存或养护程序，加上它已经过实验室的彻底测试，并广泛应用于多种项目。

As I'm sure you already know, today's concrete structures / pavements, and etc., are becoming more and more complex while materials in concrete construction are progressively being required to meet more demanding standards of performance. To keep pace with performance standards in today's products for concrete enhancement they should also be developed with respect to durability, as well as improved performance consistency, so as to upgrade the performance and durability of our constantly decaying concrete infrastructure / pavements, and etc. High-performance concrete is currently the most promising technology for enhancing Portland cement concrete performance critical criteria, and Mix Water Enhancer™ is the most efficient, effective, and consistent method of consistently, without complexity, producing high-performance Portland cement concrete.

正如你已经知道，今日今时的混凝土结构/铺筑材料等，变得越来越复杂，而混凝土施工中的材料必须日益逐地，逐步地符合更为严格的性能指标要求。为跟上当今提高混凝土产品的性能标准，它们也应拓展和提升产品耐用性、和改进及协调产品方面性能的问题，以改善日益衰退的混凝土基础设施/铺筑路面的技能表现与增强耐久性。高性能混凝土，是当前为提高水泥混凝土性能地关键标准而最具有前途的技术，使用混合水增强剂™则是一种最具有效率，简易，能协调一致地生产高性能水泥混凝土方法。

Recently, a Major University "test verified" Mix Water Enhancer™ benefits to Portland cement concrete, verification testing required the use of five hundred (500) 6"x12" cylinders, two hundred (200) 6"x6"x12" beams, twelve (12) 24"x24"x8" reinforced slabs, and eight (8) 41/2"x9"x96" reinforced beams, tests proved Mix Water Enhancer™ had ability to convert normal concrete into high-performance.

最近，一所重点大学的测试验证了混合水增强剂™有利于提高水泥混凝土的性能。验证测试需要使用五百根(500) 6"x12"的圆柱，二百根(200) 6"x6"x12"的横梁、十二块(12)24"x24"的石板，八根(8)41/2"x9"x96"基梁，试验证明，混合水增强剂™有能力转化普通混凝土成高性能混凝土。

This verification testing encompassed a determination of compressive, splitting tensile and flexural strengths at 7, 14, and 28 days, also 3 Months, 6 Months, and 1 year with a modulus of elasticity test at 28 days. A chloride penetration test was performed at 28 days, 4 Months, 6 months, and one (1) year. A coulomb permeability test was carried out at 56 days, and a petrographic analysis performed at 28 days.

这次验证测试包含了测定抗压试验鉴定、劈裂抗拉及抗折强度在 7, 14, 28 天,以及一个为期 28 天弹性模的测试在 3 个月, 6 个月和 1 年。执行一项为期 28 天的氯化物渗透试验在 4 个月,6 个月和 1 年 (1)。以及进行了一项为期 56 天的库伦渗透性试验,和执行了一项为期 28 天的岩相分析。

Some laboratory-verified conclusions were:

一些实验室验证结论:

- 1) Mix Water Enhancer significantly increased concrete's workability, through added lubricity and homogeneity.

混合水增强剂™通过增强润滑性与均质性大幅增加了混凝土的可操作性。

- 2) Mix Water Enhancer increased concrete's compressive strength by at least 10-15%, flexural strength by 30-40%.

混合水增强剂™增强混凝土至少 10-15%的抗压强度, 30-40%的抗弯折强度。

- 3) Mix Water Enhancer remained effective in normal and severe environments.

混合水增强剂™在正常和严峻环境下依然保持有效。

- 4) Mix Water Enhancer reduced the air-void percentage in its specimens, as compared to control specimens, by approximately 50%.

混合水增强剂™和控制样本对照相比较,在其样本中减少了约 50%气孔比例。

- 5) Mix Water Enhancer specimens showed a reduced coulomb current passage of 29%, as compared to control specimens.

混合水增强剂™与控制样本对照和比较,混合水增强剂™样本显示减少 29%的库伦电流传递。

- 6) Control specimens in the "severe environment" test experienced rust, leaching, and longitudinal cracking at steel's level, while no such cracking or rusting was observed in beams utilizing Mix Water Enhancer.

控制样本在"严峻环境"考验下,测试经历了生锈、滤出、及其钢级的纵向分裂,但却没有发现了混合水增强剂™的基梁上有此裂痕或生锈。

- 7) Specimens containing Mix Water Enhancer showed a lower creep value than control specimens, confirming Mix Water Enhancer enhances creep behaviour.

含有混合水增强剂™的样本呈现比控制样本更低蠕变值,确定混合水增强剂™吸收蠕变行为。

- 8) Specimens containing Mix Water Enhancer had a noticeable increase in Modulus of elasticity.

含有混合水增强剂™的样本拥有一个明显的弹性模量上增。

- 9) Specimens utilizing Mix Water Enhancer had significantly lower measured percentages of chloride ion penetration than that of the control specimens. The percentage chloride ions were measured after beam specimens, in the “severe environment” test, had been placed in a 15% salt solution (by weight of water) for 360 days and observed at a depth of 2” (steel reinforcement’s level).

利用混合水增强剂™的样本和控制样本对照比较,拥有较低的氯离子渗透的测量百分比。衡量氯离子的百分比只能是在“严峻环境”下测试基梁样本之后,样本被放入一个15%盐溶液(按水的重量)为期360天,观察在2”(钢筋的水平)的深度。

NOTES: (1) accelerated test results are based on concrete specimens exposed to “severe environment” exposure (2) prior to testing, specimens were placed in three environments: normal conditions, i.e., Moisture room with 100% humidity and constant temperature of 23° Celsius, severe conditions, i.e., tank with 15% sodium chloride solution, by weight of water, and laboratory conditions. (3) Specimens incubated in the “severe environment” vessel were subjected to continuous wetting and drying cycles.

备注:

- (1) 加速试验结果是基于混凝土样本在“严峻的环境”的暴露下
- (2) 测试前,样本放置在三个不同环境内:例如正常情况下,潮湿房间和湿度为100%恒温为摄氏23度;严峻情况下,15%氯化钠溶液的水缸里,按水重量;在实验室情况下
- (3) 在“严峻的环境”下,孵育样本的装置遭到连续干湿循环测试

Mix Water Enhancer™ works to ensure that both produced cement pastes (paste-aggregate zone cement paste and bulk cement paste), produced during concrete’s batching processes, is of the ultimate highest attainable quality, and will consistently produce concrete that has the same high-quality cement paste. In other words, Mix Water Enhancer™ utilization consistently will translate to production of high-quality high-performance concrete, therefore, translating to consistent production of concrete with a significantly extended useful life span.

混合水增强剂™确保了已生产的水泥浆(灰骨层水泥浆和散装泥浆)在混凝土配料和程序制作时,达到最佳品质,以及将相应地制作具有同等高质量泥浆的混凝土。换言之,协调使用混合水增强剂™将生产出高质量高性能的混凝土,因此,这种混凝土生产的协调和转换明显地延长了混凝土使用寿命。