

Densi-Proof™

密 - 防™

SUMMARY 综述
CONCRETE 混凝土
DENSIFIER 增稠剂



THE NAME SAYS IT ALL












产品名称已说明了一切
















Densi-Proof™ is a user-friendly, environmentally safe, white (clear-drying), non-flammable; liquid penetrant that is non-toxic (has zero voc / vos). Densi-Proof™ in liquid form has practically nil solids and readily penetrates extremely deep into concrete, using concrete's many paths of reticulation, depositing internally produced colloidal silicate residual (gel), that subsequently forms an insoluble unique 100% solids contaminant barrier, as Densi-Proof™ contacts constituents of concrete, i.e., Portland cement ingredients. This 100% solids sub-surface contaminant barrier contains its very own extremely tiny pore network, uniquely, and effectively, mimicking the pouring of concrete inside of concrete. Densi-Proof™ will even travel into concrete against water flow (hydrostatic pressure leakage, etc.) to permanently stop water / free moisture leakage, if any, and etc.

密 - 防™是一种使用方便，对环境安全，白色(清晰干涸)，不易燃烧的无毒渗透液(绝无挥发性有机化合物/挥发性有机物)。密-防™在液态中几乎没有固体成分，通过混凝土的许多网状路径，易于渗入混凝土体内极深得部位，然后沉积其内部制成的硅酸盐胶体残余(凝胶)，随后形成独特 100%不溶性固体防污染屏障，当密防™接触混凝土成分，比如，普通波兰特水泥配料。这 100%固体表层防污染屏障其本身就包涵着极为细小的洞孔网络，独特和有效的模拟混凝土中的混凝土到灌注。密防™甚至能逆流渗入混凝土(静压泄漏等)来永久性的阻止任何(如有)水/游离水分等的泄漏物。

Some Advantages of Densi-Proof™

密防™的一些优势

-  Concrete receives an integral waterproofing, even against internal migration
-  促使混凝土具有一个整体的防水功能，甚至能阻止混凝土内部的移动
-  An effective and immediate halt to contaminant ingress from any direction
-  有效和立即地终止了来自任何方向污染物成分的进入
-  Significantly and immediately increases concrete's density
-  显著与直接的增加了混凝土的密度
-  Increases and / or reinforces concrete's compression and flexural strengths
-  增加与/或加固了混凝土的压缩能力和抗折强度
-  Immediately significantly diminishes permeability
-  直接大大地降低了渗透率
-  Greatly lowers and / or eliminates water or gas vapour emissions

-  大大降低和/或消除了水或燃气的蒸发排放
-  Virtually eliminates vapours such as radon, and etc.
-  几乎排除了有如氡之类等等的蒸气。
-  Internally produces an effective permanent colloidal silicate barrier
-  内部制成一种有效的胶体硅酸盐屏障
-  Effectively halts / prevents alkali-silicate reactions in new or old concrete
-  永久有效地停止/防止了在新旧混凝土中的碱硅酸盐反应
-  Eliminates dusting potential for new or old concrete
-  为新旧混凝土排除了潜在的除尘必要性
-  Provides significant additional surface abrasion resistance
-  提供了显著附加的表面耐磨性
-  Provides increased surface bond quality without detriment to traction quality
-  有助于提高表面接合质量又无损于其牵引的特性
-  Eliminates delayed ettringite formation (DEF) potential, and AAR.
-  加速了钙硫的形成, 和消除了碱骨料反应的潜力

Densi-Proof™ does not adversely affect concrete's visual appearance, physical characteristics, surface traction quality, or surface bond quality, meaning Densi-Proof™ can effectively be used to enhance any Portland cement concrete installation, whether traffic-bearing or not. Densi-Proof™ is ideal for use on all street or highway pavements, i.e., bridge decks, parking decks, airport pavements, dams, footpaths, driveways, pavers, and etc., to preserve and extend performance criteria, as well as, useful life span.

密防™对混凝土的外观、物理特性、表面牵引质量或表面接合质量没有任何的不利影响, 这意味着密防™可以有效被应用于改善和增强任何普通水泥混凝土装置, 无论通行方位与否. 密防™最理想是用于各街道或高速公路铺筑路面, 有如桥面, 停车层面、机场路面、堤坝、行人道, 车道和铺路材料等, 保持和提高质量标准, 以及使用的平均寿命期.

Densi-Proof™ is a one coat spray on system that deeply penetrates (up to 200 mm and beyond) providing permanent water proofing and protection. Withstands a minimum of 115 ft of Hydrostatic Pressure and can be effectively applied on the positive or negative side of concrete structures. There is minimum site disruption and provides early access to other trades. It is important to point out that Densi-Proof™ provides a permanent unique passive non destructive colloidal silicate gel barrier and should not be confused with temporary, soluble, weakly-linked large pore, thixotropic gels that are formed using sodium silicates, through free lime reactions, which have proven detrimental to long-range concrete integrity. Densi-Proof™ technology is unique, it is not a Sodium, Potassium or Lithium silicate and has stood the test of time for over 25 years.

密防™是一个一次性喷涂系统, 能深入渗透 (200 毫米及以上) 为普通水泥混凝土提供了永久防水和保护功能。经受得住至少 115 英尺的流体静压, 以及可以有效地运用在混凝土结构的正负两面. 工地干扰为之最小并为其他同行提供了预先体验. 在此必须指出, 密防™为混凝土提供了一个独特的永久无损胶体硅凝胶屏障, 这有别于那种暂时的, 可溶性、大孔微弱相连, 通过游离石灰反应而证明其有害于远程混凝土完美, 用硅酸钠胶体形成的触变凝胶. 密防™技术是独一无二的, 而不是一个钠, 钾或锂的硅酸盐, 它已经受了超过 25 年时间的考验。

Manufacturers of the world's most technically advanced systems for permanent concrete repair moisture proofing and protection treatments.
保克里特是世界最先进，永久性修复，防潮和保护混凝土技术系统处理办法的生产厂家。

Non-Toxic	无毒
Zero VOC or VOS Content	挥发性有机化合物或挥发性有机物的含量为零
Environmentally Safe	对环境安全
User Friendly	用户方便
Odourless	无味
Non-Flammable	非 - 易燃品

Ensure you contact your nearest PROTECT CRETE office for full technical bulletins and latest application procedures.
为获取整套技术简讯及最新应用程序，勿忘联络您就近的保克里特（保克）办事处。

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

DENSI-PROOF™

PRODUCT
DESCRIPTION
&
TECHNICAL DATA



THE NAME SAYS IT ALL

品名已说明了一切

Densi-Proof™
密防™

PRODUCT DESCRIPTION & TECHNICAL DATA
产品说明及技术资料

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Section 1 Description

第1节 描述

Densi-Proof™ is a cloudy white (dries clear) odourless, environmentally neutral, zero VOC / VOS penetrant in a colloidal liquid base.

密防™是一种云白色(干涸清晰)无味、环保性、挥发性有机化合物/挥发性有机物为零的胶体液基渗透物。

Section 2 Basic Use

第2节 基本使用

When applied to already-set Portland cement concrete, Densi-Proof™ integrally seals, waterproofs, densifies, and preserves, attributes beneficial to concrete of any age, at any point during its useful lifespan. Densi-Proof™ provides concrete an effective chloride ion barrier preserving its imbedded steel while removing potential for hostile contaminant ingress and significantly reducing vapour transmission rate effectively also preserving treated concrete's integrity. A Densi-Proof™ treatment further increases surface abrasion resistance, and surface acid / chemical damage resistance. As Densi-Proof™ penetrates extraordinarily deep into concrete; it prolifically reacts with interior ingredients, in example, free alkali or unused calcium hydroxide residue, and etc. These reactions prolifically convert Densi-Proof™'s unusually low solids colloidal liquid to a 100% solids especially-formulated very insoluble precipitate, instantly providing additional density by becoming an integral part of the concrete, occupying its accessible porosity and other tiny voids, forming a

breathable barrier which begins in concrete's transitional porosity, located beneath its large surface porosity and its small micro porosity, and deeper.

The uniquely-induced barrier generates no heat during its liquid to solids conversion, nor expansion pressures at any time. The internally-generated pollutant barrier remains resilient and consists of pore sizes that are much smaller than concrete micro pores, significantly diminishing void percentages thus permeability, allowing concrete to retain ability to breathe, expand, and contract as it needs to. The internal barriers, complete with its extremely small porosity, greatly reduce or eliminate the transmission of gases such as radon. Densi-Proof™ halts / greatly retards, internal existing corrosive activities, removing electrolyte availability, as it supplements, densifies waterproofs, strengthens, and internally detoxifies concrete without deleterious effect to external appearance or physical characteristics. A Densi-Proof™ treatment will not impair concrete's surface traction quality and will further enhance its surface bonding ability. Areas that are to be treated need only be closed during treatment, and may be reopened immediately after treating. However, where a surface coating is planned, wait at least 8 hours, following a Densi-Proof™ treatment (not necessary if surface was blasted), then flush with water, removing purged salts, particles, sediments, and etc., if any. Surface may then be prepared to coating manufacturer specifications. Densi-Proof™ is excellent as a primer application for surface treatments. Densi-Proof™ addresses reasons for potential early coating failures such as alkaline capillary moisture accumulation, saponification, laitance effect, and etc. Since Densi-Proof™ is applied to old or new concrete

without affecting surface quality, it may be used for the enhancement of all concrete installations, whether traffic bearing or not, such as auto traffic pavements, bridge decks, parking garage decks, airport pavements, hydro dams, pavers, sidewalks, driveways, parking lots, and etc. Densi-Proof™ arrests leakage through concrete even while occurring. For example, water storage reservoirs, water treatment tanks, or below grade concrete, and etc., with or without hydrostatic pressure. Densi-Proof™ will travel against water flow, when applied to negative side, permanently arresting the flow of water.

当应用于已经凝固的普通水泥混凝土,密防™拥有整体密封、防水、增稠、保存之特征,有益于任何年龄的混凝土、在其平均寿命期的任何时候。密防™为混凝土提供了有效阻挡氯离子的屏障,保护了其嵌入在混凝土中的钢筋,同时驱除了危险污染物地进入,显著有效地降低了蒸气传输速率,完美了已处理的混凝土。密防™的工艺处理进一步的提高了表面耐磨性、表面酸碱/化学抗损性。由于密防™能异常的深入渗透混凝土中,大大促使其内在配料地反应,例如,游离碱或未用的氢氧化钙残渣等。这些化学反应大量的转化密防™异常低固体的胶体液成一个 100%特别形成不溶性固体沉淀物、容易进入和占据多孔结构及其他小洞孔,形成一层透气屏障,位于其表面的大孔与微小孔隙的下方和更深的部位,开始混凝土的孔隙过渡。这独特-诱导的屏障在其固体转化为液体时不产生热量,也不会任何时候扩张压力。内部产生的防污染物屏障,既保持了强弹力,又与远远小于混凝土微孔隙孔径大小保持吻合、因大大减少了空隙的百分比而增加了渗透力,允许混凝土保留其透气,膨胀,与其所需要的收缩功能。内部屏障,加上其极小的孔隙,大大减轻或消除了对有如氢等气体的传输。密防™停止/大大阻碍了现存内部的腐蚀性活动,消除了电解质可有性,由于其对混凝土的增补、增稠、防水、强化与内部解毒,不会对其外观或本体特征

造成危害。一个密防™的工艺处理不但无损于混凝土表面牵引质量而且将进一步加固其表面粘接力。将予以喷涂的地面只需在喷涂期间被封闭,喷涂后可立即重新开放。但是,当一个表面涂层被部署后,等待至少 8 小时,如有任何需要,经过密防™工艺处理(不包括被喷冲过的表面),然后用水冲洗,清除盐类、颗粒、沉淀物、等等。随后可为厂商规格做涂层准备。密防™作为一个底漆应用的表面处理是最杰出优秀的工艺治疗法!密防™基于例如碱性毛细管水分积累,皂化,现浇效应等早期涂料失败可能的原因。可被应用于不影响新旧混凝土的表面质量,它可被用来增强所有混凝土装置,无论通行方位与否、例如交通路面,桥面,停车库、机场路面、水电大坝、铺路材料、人行道、车道、停车场、等等。密防™禁锢贯穿混凝土的洩漏物甚至是在发生的同时。例如,蓄水库、给水处理池,或是等级之下的混凝土、无论有否静压等。当应用于负面时,密防™将逆流行驶,能永久的阻止吸收水流体。

AS A CURE METHOD: Densi-Proof™ is excellent as an alternative concrete curing method, providing a cure equal to, or better than, water curing. Densi-Proof™ as a cure method provides concrete the usual benefits of a curing agent, plus, Densi-Proof™ provides special ingredients to the yet-available capillary mix water, waiting to participate in hydration reaction rates and processes, in the plastic or semi-plastic mix, reciprocating acceleration of hydration's reaction rates and processes, in turn generating increased volumes of cement paste / hydration product, in a significantly shorter period of time, utilizing all of the remaining capillary water and leaving none to later evaporate and leave void spaces. As a result of utilizing all remaining capillary mix water, the concrete's capillary void spaces become more segmented and smaller than usual. Densi-Proof™ provides concrete a superior cure imparting extraordinary strength, surface hardness and impermeability, subsequently translating to greatly-improved durability. The Densi-Proof™ cure method provides concrete an especially formulated permanent subsurface precipitate barrier containing pore sizes

smaller than concrete's micro pores, even further diminishing porosity / permeability effectively forcing gases such as radon to seek other avenues of escape, instead of passing through the concrete, where applicable. The Densi-Proof™ cure method leaves no surface residue to interfere with surface bonding quality, important where striping or applying a topical. Utilizing Densi-Proof™ as an alternative cure method produces concrete significantly more waterproof, abrasion resistant, freeze damage resistant, dust resistant, acid / chemical resistant, and etc.

作为一个工艺处理方法:密防™作为另一个选择的混凝土养护方法,提供了一个相当于或比水养护更棒的处理方法. 密防™作为一个混凝土养护办法, 通常好处为混凝土提供一个固化剂, 密防™对已有的毛细管混合水提供了特殊配料成分, 等待去参与水化反应率和进程, 在塑胶或半塑胶组合,水化反应率和进程的往返加速, 首次制造了增加水泥浆/水化产物体积,在一个极短的时间内, 利用全部剩余的毛细管水与不剩下任何以后蒸发以及留下的空隙空间.由于利用所有剩余毛细管混合水, 混凝土的毛细空隙变得比往常更加环节分明与微小. 密防™为混凝土提供了优秀的工艺处理方法, 给予混凝土非凡的强度, 表面硬度和抗渗度, 随后转化成其大大改善了的耐久性能. 密防™治法为混凝土装备了含有孔径小于混凝土微孔隙的专制永久表层沉淀屏障, 如能使用, 进一步降低孔隙/渗透率有效的迫使犹如氩等气体去寻求其他漏流途径, 而不是通过混凝土. 密防™治法不留任何将干扰表面粘接质量的表面残留, 凡对拆除与铺涂主体的应用很重要. 用密防™作为一个工艺治法选择, 是混凝土产生更为显著的防水、耐磨、耐冻损, 抗尘, 耐酸/抗化等性能。

Section 3 Installation Suggestions

第3节 安装建议

On Already-Set Concrete:

用于已凝固混凝土:

Note: In hot climates, mist-wet the surface with water and remove any puddles prior to application.

注: 在天气炎热时, 用水雾湿表面, 然后在应用前驱除任何水坑。

Apply Densi-Proof™ using a medium to high-pressure airless spray unit, complete with fan spray nozzle. Holding spray tip 6 inches from surface, apply Densi-Proof™ at minimum rate of 200 square feet per gallon with an overlapping spray pattern of 20-30%. Begin application at the lowest elevation. For example, walls and slopes should be applied side to side, from the bottom up.

采用中高压无气喷涂设备附带齐全的喷嘴来涂喷密防™产品。掌握喷头离表面 6 英寸的位置、涂喷密防™在最低率的每加仑 200 平方英尺跟重叠喷涂 20-30%的模式。从最低的高度开始适用.例如, 墙和斜坡应边对边由下而上的涂喷。

As An Alternative Cure Method:
另一个可选择的工艺处理方法:

Apply with a low-pressure non-atomizing, spray apparatus such as a pump-tank sprayer or mechanical cure slurry pump, or alternatively by flooding-on. Densi-Proof™ is ideally applied to the newly-poured concrete surface as soon as is practical following its surface finishing phase. Should conditions require the surface to be walked on, for application, concrete should be allowed the time to adequately harden, so as not to imprint or mar its surface during application. Recommended minimum coverage rate as a cure method is 150 square feet per gallon.

用低压非雾化, 例如泵式喷雾罐或者机械治愈渣浆泵, 或选择用浮色喷涂。密防™很合适应用于新浇筑混凝土表面, 当其表面完成阶段之后, 尽快使用密防™工艺处理最为理想。万一条件需要可开放表面, 对使用而言, 允许混凝土有足够的的时间来充分硬化, 以免在使用期间印痕或玷污其

表面. 建议复盖率至少为每加仑 150 平方英尺的工艺处理。

Caution: Like many construction materials including fresh concrete Densi-Proof™ contacting glass should be flushed with water and not be allowed to dry, since glass may etch. Densi-Proof™ will dull the shine on shiny aluminium, however, aluminium's integrity will be otherwise uneffected.

告诫:像许多建筑材料包括新鲜的混凝土当密防™接触了玻璃后, 因玻璃可能蚀刻, 因以水冲洗及不得让此部分干涸。密防™将使耀眼闪亮的铝变得暗无光泽, 但是铝完整的本质, 将不受影响。

Section 4 Precautions 第4节 防范

1. Any coatings that may restrict access to the Concrete's interior must be chemically or Mechanically removed for Densi-Proof™ to Penetrate.

为能让密防™渗透, 必须采用化学和机械方法来排除任何可能限制进入混凝土内部的涂层物。

2. Protect areas not intended for coverage.
保护不打算被复盖面积
3. Densi-Proof™ may etch glass or dull shiny Aluminium and can be difficult to remove from other surfaces once it dries.

密防™可能蚀刻玻璃和使光亮的铝暗无光泽, 表面一旦风干将难以被清除。
4. Do not apply on frozen substrate or when Temperature is near freezing.

不适用于基底或温度接近冰冻。

5. Densi-Proof™'s spray mist is not hazardous to breathe. However, we do recommend the use of a face mask during application. Refer to MSDS.

密防™的喷雾对呼吸无害。但我们还是建议使用面罩. 请参考材料安全数据表。

6. For more information read Material Safety Data Sheet available at www.protectcrete.com.au

如需要, 可在以上网站阅读材料安全数据表的更多资料

Section 5 Technical Data 第5节 技术资料

Physical: Liquid

物体: 液态

Colour: Cloudy white (dries clear)

颜色: 云白色(清晰干涸)

Odour: None

气味: 无

Specific Gravity: 1.10

比重: 1.10

pH: +/- 11.5

pH值: +/- 11.5

Flammability: None

易燃性: 无

Toxicity: None

毒性: 无

VOC / VOS Content: none

挥发性有机化合物/挥发性化合物内容: 无

Surface Bond Quality: Excellent

粘结表面质量: 卓越

Paint ability: Excellent

油漆能力卓越: 卓越

Clean-up solvent: Water

清洁溶剂: 水

Environmental Impact: None / Neutral

环境的影响: 无/中立

R-Factor Increase: Up to 20 percent

R因素增加: 高达20%

Chloride Screen ability: Excellent

氯化物屏幕能力: 优秀

User Status: Friendly

用户状态: 方便

Section 6 Some Advantages

第6节 一些优势

- Permanently Integrally Waterproofs Concrete
- 混凝土永久整体防水
- Provides Internal Humidity Stability
- 提供内部湿度稳定
- Further Restricts Vapour Transmission
- 进一步限制水汽输送
- Preserves Matrix and Overall Integrity
- 保存了矩阵与整体的完整、
- Increases Surface Abrasion Resistance
- 增幅表面耐磨性
- Excellent As a Coating or Topping Primer

- 优良的涂层或杰出的底漆
- Concrete Densifier
- 混凝土增稠剂
- Improves Thermal Resistance (R-Factor)
- 改善耐热力 (R型因子)
- Increases Strengths
- 增加实力
- Zero VOC & VOS Content
- 挥发性有机化合物或挥发性有机物的含量为零
- Prevents Water or free Moisture Migration
- 防止水或游离水分迁徙
- Makes Ice Removal and Cleaning Easier
- 令除冰与清洁变得更容易
- Improves Dusting Resistance
- 增进了除尘力
- Improves Acid / Chemical Resistance
- 提高了耐酸/抗化性
- Lowers Internal Chemical Reaction Potential
- 降低内部化学反应的可能性
- Lowers Creep Deformation Potential
- 降低潜在蠕变
- Lowers Electrostatic Discharge Potential
- 降低潜在的静电放电
- Improves Past Carbonation Effects
- 改善以往碳化作用