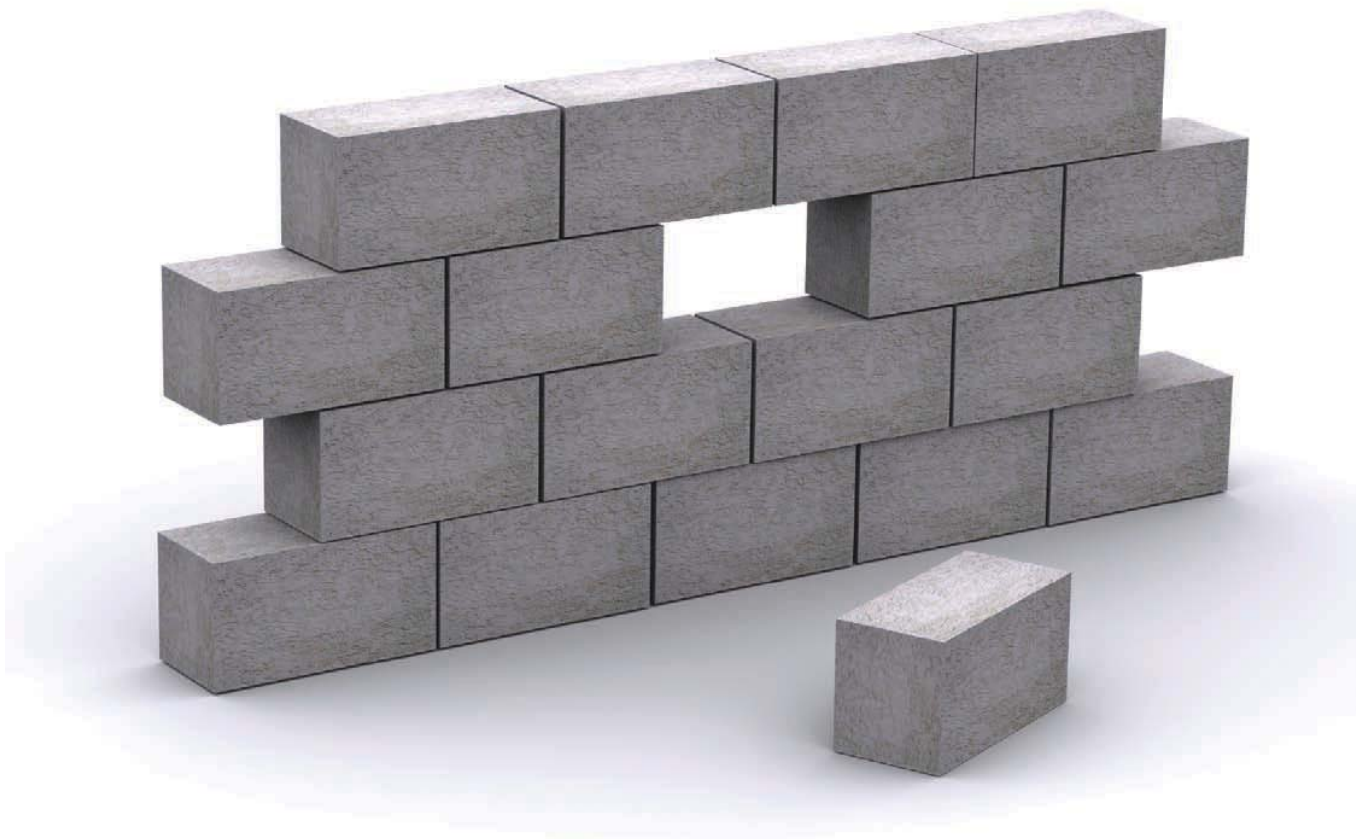


# PRODUCT 3001



## bulk impregnation of mass produced masonry

Nanovations Pty Ltd , introducing a impressive new product for the protection of high quality concrete, masonry, pavers and concrete roof tiles. The product has the ability to add properties to the bulk material, which makes the use of surface sealers in many cases unnecessary.

“impregnation of the complete concrete part or masonry.”



Concrete, even of high quality, contains capillaries and micro cracks. This allows water to pass through its structure. The passage of water and moisture by this method is called capillary absorption. Even dense concrete of high standard does not eliminate absorption of water through capillary and permeability.

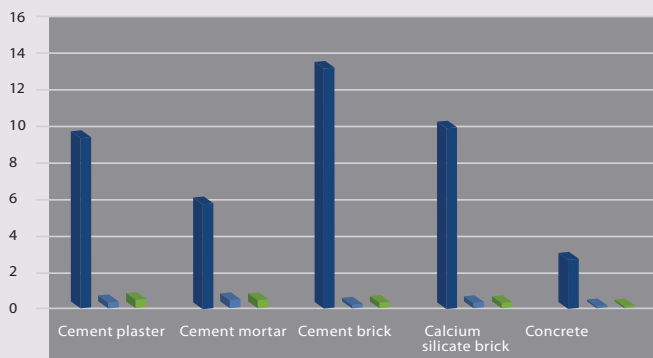
Concrete inherently absorbs moisture and soluble contaminates from its surrounding environment. For decades surface sealers and penetrating impregnations have been used to reduce the water absorption, and to protect concrete from moss, algae and salt attacks. With the use of Nanovations 3001, the use of sealers can be reduced or completely avoided.

### what is bulk impregnation?

Bulk impregnation means not only deep but complete Impregnation. 3001 bulk impregnation works through the complete thickness of the concrete part or masonry.

By becoming a permanent property of the complete concrete or masonry part , rising damp and efflorescence can be prevented and surface abrasion does not wear off the product or the function .

Permanent, long term protection can be achieved.



	concrete	brick	pavers
Untreated	7.1	13.2	11.6
3001 bulk mix	0.7	0.3	0.7
Common Penetrating sealer	0.5	0.3	0.8

### Comparison of solvent based sealer, and the 3001 emulsion, water absorption.

- Extremely consistent product solutions and small particles sizes.
- Water based low VOC technology
- Water absorption significant reduced. Reduced risk of fast water loss.
- 3001 Impregnating emulsions have an extraordinary good shelf-life because of the use of the patent protected manufacturing technology.
- Protection from capillary water transport.

## Benefits of bulk impregnation of concrete and masonry

3001 can be used for bulk impregnation in manufacturing lines for pavers, bricks and concrete roof tiles without any modification of the machinery. 3001 can be also used in coastal areas, pool surroundings where high levels of salt can damage the concrete or create efflorescence.

“impressive multifunctional protective properties for water related problems.”

The extreme reduction of the water absorption results in fast drying surfaces where moss and algae will not find the appropriate growing ground. 3001 will reduce maintenance cost and time and water usage from cleaning while keep the appearance and the value of the asset at the highest possible level.

Keeping the water absorption low has also a significant effect on the way concrete treated with 3001 can handle efflorescence and frost, thawing in strong winter conditions. 3001 significantly reduces the risk of efflorescence and protect colored concrete from water related discoloration. The use of Nanovations 3001 can be a significant marketing advantage for manufacturers.



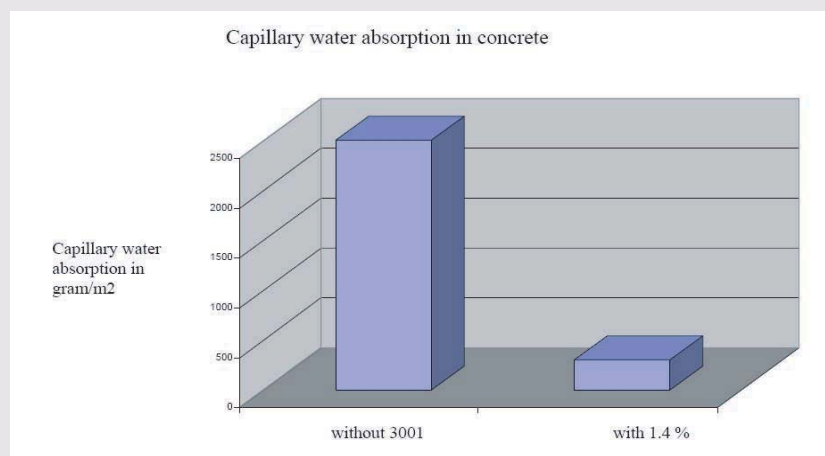
Concrete part 24 hours after pouring. Water droplets will not absorb  
Below : same sample after breaking . Water on the break zone



### benefits and advantages

- 3001 in concrete is able to stop the transport of liquid water, within the cured concrete or masonry.No more rising damp will appear.
- Improves curing activities of concrete - reduces the risk of fast water loss.
- Prevents washout efflorescence and discoloration of coloured concrete parts during storage and transport.
- Significantly reduces the ingress of liquid water and any dissolved salts that the water may carry.3001 improves the salt resistance.
- Prevents from primary efflorescence occurring during hardening of the concrete.
- Protection against secondary efflorescence from the weathering of the hardened concrete.
- Better colour stability and appearance.
- Permanent, product works through the complete thickness of the concrete part or masonry.Surface abrasion does not reduce the function.
- 3001 offers additional properties like low water absorption, frost and thaw resistance and reduces the appearance of moos and algae.
- 3001 is economical and can be used in mass production manufacturing lines for pavers, bricks and concrete roof tiles without any modification of the machinery.
- The use of sealers can be avoided or reduced.\*

\* 3001 and it's multifunctional properties can replace common penetrate ing surface sealers in situations where normally a sealer would be used against discolorations, efflorescence , moss algae, water absorption , salt damages and colour protection and transport and storage issues.





## 3001 for the permanent prevention of efflorescence

Efflorescence is widely known as an aesthetic problem of concrete, brick and block masonry façades and can be a real eyesore in the long term visual performance of colored concrete masonry and precast panels, facades and pavers. Up to now no pragmatic remedy is found for this phenomenon.

“Permanent prevention of efflorescence becomes reality”

3001 subsequent chemical reaction with the concrete allow it to provide long term protection for concrete not only from efflorescence but also from many other water related problems.

3001 offers additional properties like low water absorption, frost and thaw resistance and suppressing of moss and alga.

A preventive measure for efflorescence is to ensure that the concrete units dry out as slowly as possible. 3001 reduces the risk of fast water loss, resulting in a better and more consistent hydration process.

For secondary efflorescence which occurs long after the material has been made, 3001 significantly reduces the ingress of liquid water and any dissolved salts that the water may carry.



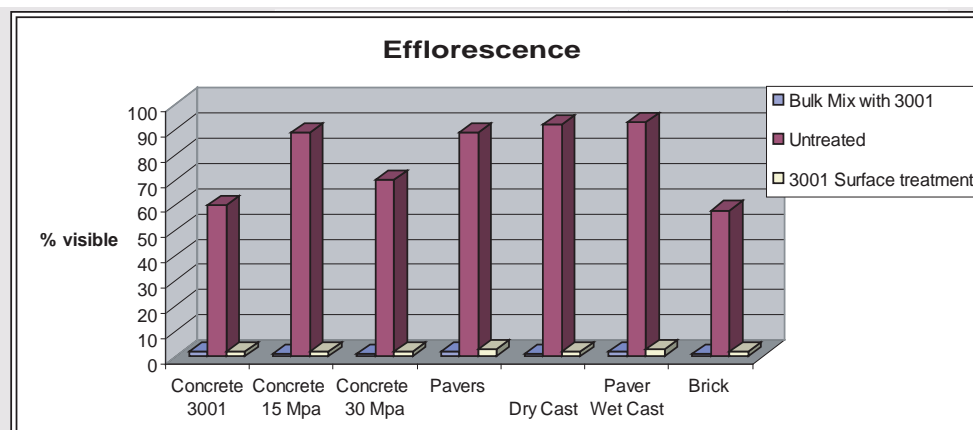
Dry cast hydraulic pressed paver from mass production manufacturer.

Below: Sample treated with 3001, test with 4 % salt content. Identical mix. Left with 1.4 % 3001 (on cement by weight ratio)



### Benefits:

- Permanent
- Multifunctional
- Economical
- Use in mass production
- Low VOC
- Prevents from primary efflorescence
- Protection against secondary efflorescence
- Better colour stability and appearance.
- Reduced dependency on sealers
- Use as surface treatment possible



## product testing and multifunctional use of 3001

Efflorescence Prevention



The reduction of the water absorption creates high frost and salt resistance

Control of water penetration



Bulk impregnation stops rising damp. ( 48 hours in water)  
Below : water droplet after sitting on 3001 concrete for 24 hours.



Moss and algae avoidance  
by reducing water absorption

12 month after a surface treatment  
200ml /m2 3001 1:10

Absorption comparison  
16 month after the application  
Single pavers treated.

Deep penetration. This sample was  
split in half, 2 hours after the surface  
application of 200 ml /m2 3001



After the curing  
and stored in water for 24 hours.  
Significant reduced water absorption  
as deep as 3001 penetrates.



## access to advanced products, knowledge and new technology

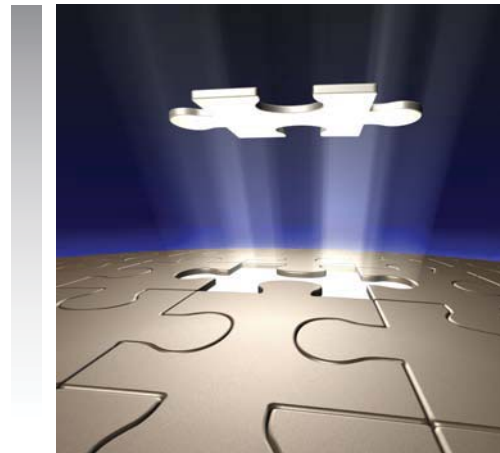
Nanovations offers services and products that can assist construction industry and surface coating manufacturer in several ways.  
Nanovations helps to incorporate the use of the latest technologies and product developments into sustainable durable building designs .

“high tech products  
with the best  
environmental  
performance  
available”

### we are supply partners not competition

We supply the largest range of advanced product solutions in Australasia and we find some interesting answers to a number of the construction industry's problems.

Nanovations is working with global leaders and producers of speciality chemicals for supply and development.  
We cooperate with companies with highly respected and established distribution channels which see the need in implementing advanced new technologies.



### advances in materials technology

Worldwide experience has shown that advances in materials technology are often the absolute essence of a competitive advantage for many of today's construction companies.

Companies interested in the latest technology with new unseen properties, better durability and the best environmental performance available anywhere in the world, please don't hesitate to contact us.

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