



## SUPERSHIELD MULTISEAL TECHNICAL DATA SHEET

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### DESCRIPTION

SUPERSHIELD MULTISEAL is a unique water based, environmentally friendly waterproofing and vaccination treatment for concrete and all cement-based material. In a single application it will permanently waterproof and protect concrete against water, moisture, aggressive chemicals and temperature associated problems such as concrete leakage, thermal cracking, damage caused by repeated freeze and thaw cycles, chloride ion penetration, as well as alkali silica reactions (ASR). The protection properties of SUPERSHIELD MULTISEAL takes place in three different mechanisms that combines water repelling technology with impregnation (Hydrated crystals) and DPC crystallization (Hygroscopic crystals) technology.

SUPERSHIELD MULTISEAL once sprayed on to the concrete will seep into the pores and capillaries of the concrete taking advantage of its low viscosity, where it chemically reacts and results in outstanding protection system by forming a water repelling substrate with two distinctive crystal formation (Hydrated and Hygroscopic) filling the pores, capillaries and voids from all the directions.

SUPERSHIELD MULTISEAL is the only product currently available that delivers combined moisture blocking and repelling mechanisms. The very low viscosity of SUPERSHIELD MULTISEAL ensures its penetration into the concrete surface where it forms its protective crystals.

### FUNCTION

SUPERSHIELD MULTISEAL must be absorbed by the substrate for optimal impregnation. For this reason the substrate must be dry at the time of application. Where surfaces are dusty, blowing down with compressed air or brushing with a broom is recommended as a means of unblocking surface pores and removing surface dust. The impregnant is applied undiluted in a one single coat operation to the substrate using the most efficient and appropriate of the above equipment. If it rains during application of the impregnant, work should be stopped immediately. However, there is no need to take any action to cover surfaces that have already been treated with SUPERSHIELD MULTISEAL. Impregnation work can resume once the surface is completely dry.

The impregnant must not be applied at temperatures lower than 5°C. SUPERSHIELD MULTISEAL can be applied to new concrete substrates after 7 days.

If allowed to cure, SUPERSHIELD MULTISEAL may form a thin layer of crystals on over sprayed non-cementitious surfaces. SUPERSHIELD MULTISEAL will have no adverse effect on bituminous materials or protective coatings. Aluminium, galvanized steel or non-cementitious material are likely to be affected by over-spray, these should be protectively covered or washed down immediately with clean water.

Part used containers of SUPERSHIELD MULTISEAL are to be kept tightly closed at all times during use and when not in use. SUPERSHIELD MULTISEAL oxidises aluminium and galvanized steel and it should not be stored in containers made of such.

### ADVANTAGES

SUPERSHIELD MULTISEAL will prevent penetration of chlorides ions from de-icing salts. It will protect against damage caused by repeated freezing/thawing cycles and provide a permanent internal waterproofing and moisture blocking function from both positive and negative sources.

SUPERSHIELD MULTISEAL has excellent repelling properties against water, jet fuel and oil. It will resist aggressive chemical attack from acids, caustics jet fuels and oil.

SUPERSHIELD MULTISEAL will protect the reinforcing steel bars against corrosion without any negative effect on any existing steel cathodic protection.

SUPERSHIELD MULTISEAL will reduce Alkali Silica Reactions (ASR) thus eliminating Silica dusting and increase concrete hardness.

SUPERSHIELD MULTISEAL will not adversely affect adhesion for subsequently applied surface coating systems. SUPERSHIELD MULTISEAL seals and protects hairline and thermal cracks up to a width of 1.4mm.

SUPERSHIELD MULTISEAL is water-based, non-toxic and totally environmentally safe. It is also completely safe for use over rivers and clean water. A single application treatment will ensure a permanent waterproofing of all cementitious surfaces.

SUPERSHIELD MULTISEAL cures with a thick crystal structure and is thus more durable against wind driven and other erosion sources than traditionally used impregnates.

## USERS

SUPERSHIELD MULTISEAL can be used as a treatment and protection against all water and moisture associated problems for all concrete and cementitious surfaces. It is effective for new and refurbished concrete structures alike.

It is a highly cost effective treatment for treating- airport runways, aircraft hard standings, taxiways, bridges and highway structures multi story car park decks and structures. In fact, all concrete can be effectively treated with SUPERSHIELD MULTISEAL

## HOW TO USE

Concrete surfaces must be clean, dry and sound prior to applying SUPERSHIELD MULTISEAL . The use of compressed air or brushing is recommended to remove all loose particles and dust from the surface.

If the surface to be treated is heavily contaminated it is recommended that cleaning be carried out by using high pressure steam cleaning. The use of special concrete cleaning agents may be necessary for areas contaminated with oil.

SUPERSHIELD MULTISEAL should be applied in one single coat only by means of spraying, sweeping or brushing. For large-scale applications it is recommended using the computerised SUPERSHIELD MULTISEAL application equipment.

## APPLICATION

SUPERSHIELD MULTISEAL is supplied on site in sealed containers. The product is applied evenly to the surface either by spray or brushing. The surface is to be completely covered with the impregnant at a dosage rate of 200ml/m<sup>2</sup> .

SUPERSHIELD MULTISEAL must not be applied if the temperature falls below 5°C or if raining. It is recommended that all surfaces being treated must be completely dry at the time of application.

As with all impregnation materials and processes, surface must be free from any contamination that might reduce uptake of the impregnate. A visual check for contamination will normally suffice. When the history of the structure is unknown and the presence of surface contamination is in question, absorption can be confirmed by applying a pure water spray and observing its normal take up into the porous concrete surface. Water will tend to run off rather than be absorbed on adversely contaminated surfaces.

## MATERIAL INFORMATION

Water-based crystal forming moisture-repelling chemical.SUPERSHIELD MULTISEAL is safe for workers and is environmentally friendly. Refer to Material Safety Data Sheet or contact SUPERSHIELD.

### Character data of the product

Appearance:	Clear water-like
Odour:	None
Fumes:	None
Specific Gravity:	Approx 1.073
Viscosity:	2.4 Centipoises
Freezing Point:	-4°C
Boiling Point:	103°C
PH value:	Approx 8.5
Toxicity:	None
Environmental Hazards:	None
Trafficable:	1 hour after application



**SUPERSHIELD**  
Lease Life To Man-made Structures