



The Chemical Company

MASTERSEAL® HLM 5000R

Liquid cold applied elastomeric waterproofing membrane

(Formerly known as Sonoshield HLM 5500)

DESCRIPTION

Masterseal® HLM 5000R is a single component polyurethane based coating that cures by reaction with atmospheric moisture to form a tough but flexible waterproofing membrane.

The product is available in two grades:

Masterseal® HLM 5000R V – for application on vertical surfaces and **Masterseal® HLM 5000R H** – for application on horizontal surfaces

Depending on the area, the V grade can also be used on horizontal surfaces but the H grade can not be used on vertical surfaces.

RECOMMENDED FOR

Masterseal® HLM 5000R is designed for use as an effective waterproofing membrane on below grade concrete structures and between concrete slab applications.

Applications include:

- External coating of walls in basements, sumps, subways and lift wells.
- Waterproofing of terraces, balconies, wet areas and basement floor slab as a sandwich treatment.

FEATURES AND BENEFITS

- **Waterproofs substrate** - protects substrates from damage by water penetration.
- **Single component, Liquid applied** - easy to install even over complex profiles.
- **Retains flexibility after heat ageing** - performs even after wide variations in temperature.
- **High tensile strength** - tough, durable, long term protection.
- **Resistant to biological and chemical attack** - durable even after common, subsoil biological and chemical aggression.
- **Excellent bond with substrate** - eliminates bonding agent, torching, etc
- **Free from Bitumen** - environmentally friendly.

PERFORMANCE DATA

Note: Applicable for both V and H grades	
Tensile strength (ASTM D 412), N/mm ²	≥2.6
Elongation at break (ASTM D 412), %	≥700
Bond strength on wet substrate, N/mm ²	≥0.5
Properties tested to GB T12950-2003	
Water impermeability, 0.3MPa, 30min	Passes
Solid content, %	≥85
Surface dry time (at 25°C, 50% R.H.), h	≈7
Tack-free time (at 25°C, 50% R.H.), h	≤12

Tear strength, N/mm	≥17
Low temp bending without cracking, °C	-40
Retention after heat ageing	
Retention of tensile strength, %	>90
Elongation at break, %	≥600
After chemical ageing	
Retention of tensile strength, %	>75
Elongation at break, %	≥600

The performance data is typical and based upon controlled laboratory conditions. Actual performance on the job site may vary from these values based on actual site conditions.

PROPERTIES

Supply form	Thick liquid
Colour	Black
Density (at 25°C, 50% R.H.), kg/L	1.35 ^{±0.05}
Shore A hardness (ASTM C836), No.	55 ^{±5}
Application temperature	5°C to 35°C
Service temperature	-30°C to 60°C

Test conducted by Setsco (Singapore):

Curing at ambient condition for 7 days: (ASTM D412:2006a)	
Tensile Strength N/mm ²	≥3.14
Elongation at break, %	≥930
After heat ageing at 50°C for 14 days (ASTM D412:2006a)	
Tensile Strength N/mm ²	≥3.45
Elongation at break, %	≥890
Chemical immersion for 72 hrs in 0.5% NaOCl (ASTM D412:2006a)	
Tensile Strength N/mm ²	≥2.49
Elongation at break, %	≥910
Chemical immersion for 72 hrs in 1.25% NH ₄ OH (ASTM D412:2006a)	
Tensile Strength N/mm ²	≥2.64
Elongation at break, %	≥890
Chemical immersion for 72 hrs in 3.7% HCl (ASTM D412:2006a)	
Tensile Strength N/mm ²	≥2.90
Elongation at break, %	≥900
Adhesion Strength (ASTM D4541: 2002)	
Adhesion Strength N/mm ²	≥1.09
Mode of Failure, %	>90
Remarks: Cohesive failure within G40 concrete substrate	



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ESTIMATING DATA

At the recommended average w.f.t. of 1.2mm, approximate consumption will be 1.6kg/m². Therefore, each 22.5kg packaging will cover approximately 14m².

APPLICATION

For information on application, curing and protection boards, refer to "Application Guide for Masterseal® HLM 5000R" available from your local BASF Construction Chemicals representative.

Tips for optimal performance:

- Keep Masterseal® HLM 5000R cool in hot weather and warm in cold weather.
- Repair voids, cracks and unevenness in substrates before application.
- Remove all surface contaminants.
- Avoid application when inclement weather is present or imminent.
- Avoid pinholes and holidays.
- Apply uniformly to recommended thickness.
- Protect against exposure to accidental impact with protection boards, to traffic and UV with screed, tiles or soil (garden).

CURING

Appreciable properties develop within 24-48 hours at 24°C and 50% relative humidity. Masterseal® HLM 5000R should be protected from traffic before placement of

protection board and topping. Install tightly butted protection board (minimum 3mm thick) as soon as possible following cure of Masterseal® HLM 5000 R.

CLEANING

Clean all tools and equipment immediately after application with Cleaning Solvent No2.

PACKAGING

Available in 22.5kg metal drum.

SHELF LIFE

Shelf life is six months when stored clear off the ground in unopened original packing, in a room well protected from moisture and humidity.

PRECAUTIONS

Store or use away from sources of fire and ignition. Use appropriate protective clothing, gloves, eye protection and dust masks while handling the product. Use only with adequate ventilation or use respiratory protection during application. Wash hands and face thoroughly before consuming food.

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the BASF Construction Chemicals **Material Safety Data Sheet (MSDS)** from our office or our website.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this BASF Construction Chemicals publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use. **BASF Construction Chemicals data sheets are updated on a regular basis and it is the user's responsibility to obtain the most recent issue.**

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by BASF either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not BASF Construction Chemicals, are responsible for carrying out procedures appropriate to a specific application.

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