

NURAPRUF 415 & NURAPRUF 415 (SELF-ADHESIVE)

HIGH PERFORMANCE HDPE PRE-APPLIED &
POST-APPLIED WATERPROOFING MEMBRANE

ASIA'S LEADING
BUILDING PROTECTION
SPECIALIST



NURAPRUF 415 & NURAPRUF 415 (SELF-ADHESIVE)

HIGH PERFORMANCE HDPE PRE-APPLIED & POST-APPLIED
WATERPROOFING MEMBRANE

NURAPRUF 415 MEMBRANE IS
UNIQUE AS IT IS MADE UP OF
COMPOSITE SHEETS COMPRISING OF
THICK HDPE FILM, AN AGGRESSIVE
PRESSURE SENSITIVE ADHESIVE AND A
WEATHER RESISTANT PROTECTIVE
COATING.



KIM CHUAN DEPOT EXTENSION - BUS AND RAIL DEPOT

PRODUCT DESCRIPTION

Nurapruf 415 membranes are applied horizontally to prepared lean concrete or well-rolled and compacted sand or crushed stone blinding.

Vertically the membrane is fastened to permanent formwork or adjoining structures.

Concrete is then cast directly against the adhesive side of the membranes. The specially developed pressure sensitive adhesives work to bond the membrane to concrete face.

The Nurapruf System includes:

- **Nurapruf 415:** A high performance HDPE membrane
- **Nurapruf 415 (Self-Adhesive):** A self-adhesive HDPE membrane for external wall post-applied application
- **Nurapruf tape** for lapping between two rolls of membrane
- **Nurapruf SS Tape** for sealing of fastening points and punctures
- **Nurapruf Seal:** Liquid membrane for sealing around terminations, penetrations etc.

“ Nurapruf 415 is a pre-applied fully bonded waterproofing membrane that bonds directly to concrete poured against it. This continuous and unique integral bond to concrete prevents water migration around the structure and makes it unaffected by ground settlement beneath the slab. ”

AREAS OF USAGE

- Basement structures
- Tunnels
- Ground slabs

PRODUCT DESCRIPTION



NURAPRUF 415 membrane is unique as it is made up of composite sheets comprising a thick HDPE film, an aggressive pressure sensitive adhesive and a weather resistant protective coating. It is a pre-applied fully bonded waterproofing membrane that bonds directly to concrete poured against it thus sealing the concrete preventing any ingress or migration of water around the structure.

SPECIAL FEATURES

Continuous bond to concrete

Membrane forms an integral seal with concrete thus preventing water migration

High Performance

HDPE layer provides high puncture resistance

Membrane is self-protecting

It is trafficable and ready for immediate placement of reinforcement

Fully adhered water-tight laps and detailing

Weather and UV resistant

Unaffected by wet conditions

Cannot be activated prematurely

Can be fixed to permanent formworks

Allows max use of confined space

Simple and quick to install

Does not require primer or fillets

Physical barrier

Isolate structure against water, moisture and gas

Effective in all types of waters and soils

WARRANTY INFORMATION

Only Hitchins' trained applicators are approved to undertake all application work. Hitchins products carry a long-term warranty for both materials and workmanship. The warranty is further backed by Hitchins International Fidelity Fund. Please check with our local applicators if this fund is available in your country. For complete warranty and other related information, please contact Hitchins regional offices.

PRODUCT SPECIFICATION

THICKNESS: $\geq 1.2\text{mm}$

TENSILE STRENGTH (SS 374): $>25\text{ N/mm}^2$

ELONGATION (SS374): $>1000\%$

TENSILE SHEAR AT JOINT (SS374): $\geq 800\text{ N}$

RESISTANCE TO HYDROSTATIC PRESSURE (DIN 16726): 20 bar, No rupture or leakage

RESISTANCE TO LEAKAGE AT JOINTS (SS 374): No Leakage

PUNCTURE RESISTANCE (ASTM E 154): $\geq 1000\text{ N}$

PEEL ADHESION TO CONCRETE (ASTM D903): $\geq 3000\text{ N/m}$

UV ACCELERATED WEATHERING - 1000 HOURS (ASTM G154): Passed

LATERAL WATER MIGRATION (ASTM D5385): There is no water leakage at max pressure (100 psi /70m)

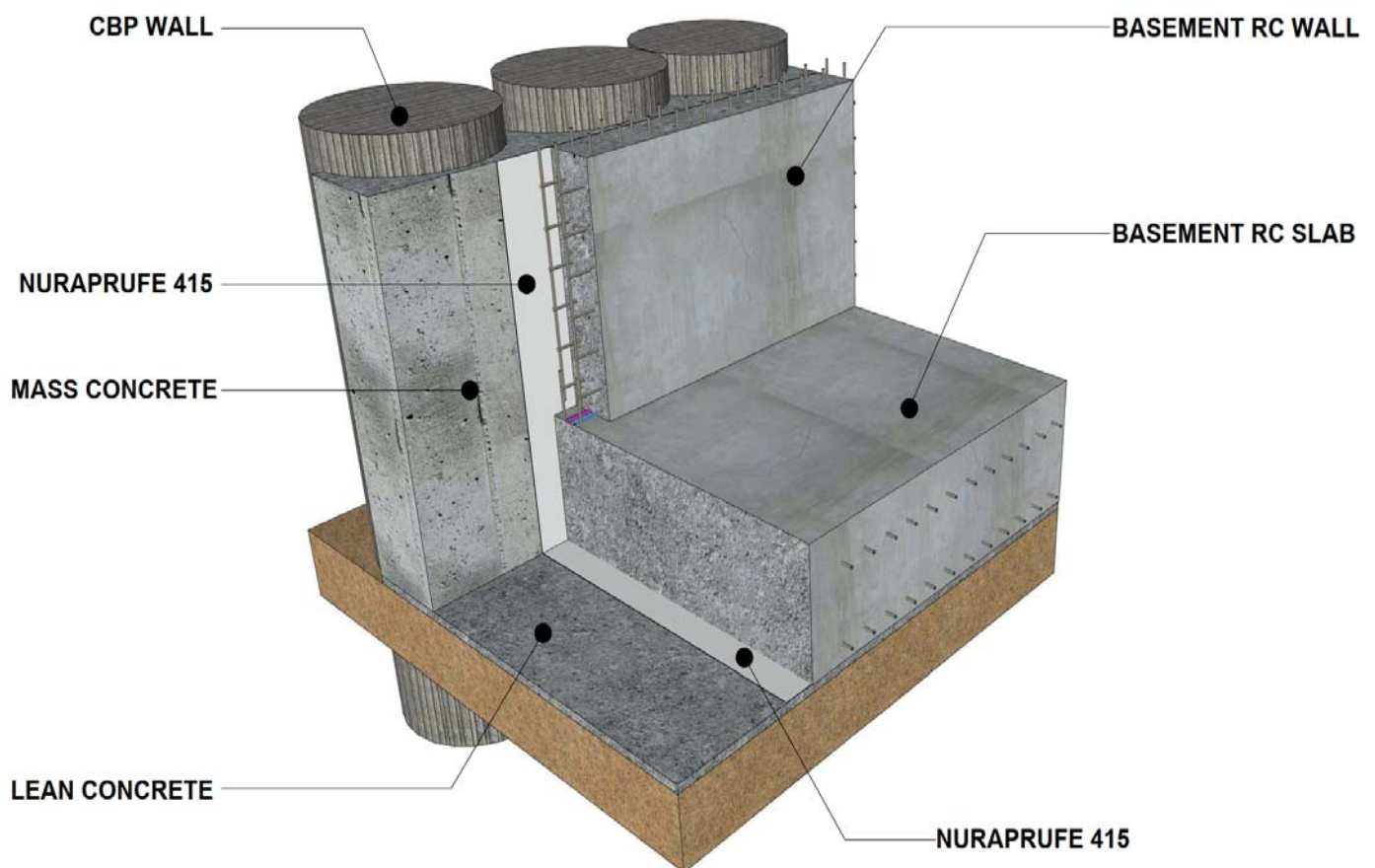
WATER VAPOUR TRANSMISSION (ASTM E96): $0\text{ g/m}^2/\text{hr}$

RESISTANCE TO HYDROSTATIC PRESSURE - NURAPRUF 415 (SA) OVERLAP WITH NURAPRUF 415 (DIN 16726):
There is no leakage at 7 Bar

ROLL SIZE: 1.2m x 30m Nuraprufe 415

2.0m x 20m Nuraprufe 415 (SA)

NURAPRUF 415 ON CBP



AREAS OF USAGE

NURAPRUF 415 / SA is ideally suited for used to waterproof basement structures, tunnels, subways etc .

ADVANTAGES

- Thick HDPE provides high dimensional stability, puncture and tear resistance.
- Unique pressure sensitive adhesive technology ensuring continuous seal.
- Forms a unique integral seal to concrete poured against it thus preventing water migration.
- The membrane once bonded to concrete is unaffected by ground settlement beneath slabs.
- The membrane is self protecting – it is trafficable immediately after application and ready for immediate placing of reinforcement.
- Unaffected by wet conditions.
- Provides a physical barrier and isolate structure to water, moisture and gas.
- Effective in all types of waters and soils.
- Simple and quick to install.

APPLICATION & INSTALLATION



1. Unroll membrane



2. Side lap joint



3. End lap joint



4. Termination at pile



5. Nuraprufe Seal



6. Completed



7. No protection required



8. Installation on formwork



9. N415 (Self-Adhesive) on External Wall

APPLICATION

SUBSTRATE PREPARATION

All Surfaces - It is essential to create a sound and solid substrate to eliminate movement during the concrete pour. Substrates must be fairly regular and smooth with no gaps or voids greater than 12mm. Grout around all penetrations such as utility conduits, etc. for stability.

APPLICATION

NURAPRUF 415 can be applied at temperatures of -4°C or above.

Horizontal Substrates

Place the membrane with HDPE film side to the substrate with plastic release liner side facing towards the concrete pour. Leave plastic release liner in position until overlap procedure is completed. Accurately position succeeding sheet to overlap the previous sheet by 75mm along the marked selvedge. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Peel back the plastic release liner from between the overlaps as the two layers are bonded together. Ensure a continuous bond is achieved and press firmly with a heavy hand. Completely remove the plastic liner to expose the protective coating before proceeding with placement of reinforcement bars. Any initial tack will quickly disappear.

Vertical Substrates

Mechanically fasten the membrane vertically using fixings (i.e. nails, fasteners) appropriate to the substrate with plastic release liner side facing towards the concrete pour. The membrane may be installed in any convenient length. Top of the membrane can also be secured using a batten such as a termination bar or fixing 50mm below the top edge. Fixings can be made through the selvedge so that the membrane lays flat and allows firmly rolled overlaps. Immediately remove the plastic release liner. Any additional fixings must be covered with a patch of NURAPRUF SS Tape. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap.

Roll Ends and Cut Edges

Overlap all roll ends and cut edges by a minimum 75mm and ensure the area is clean and free from contamination, wiping with a damp cloth if necessary. Use Nurapruf Tape to ensure continuous bond between 2 rolls.

EXPOSURE AND PROTECTION

Following the application and inspection, care should be taken to prevent damage by following trades. Any punctured or damaged areas should be cleaned and patched using NURAPRUF 415 with NURAPRUF TAPE with minimum 50mm laps all around or with NURAPRUF SS tape.

HEALTH & SAFETY

Read the product label and Material Safety Data Sheet (MSDS) before use. Users should acquaint themselves with all risk and safety phrases.

Place Product
Sample Here

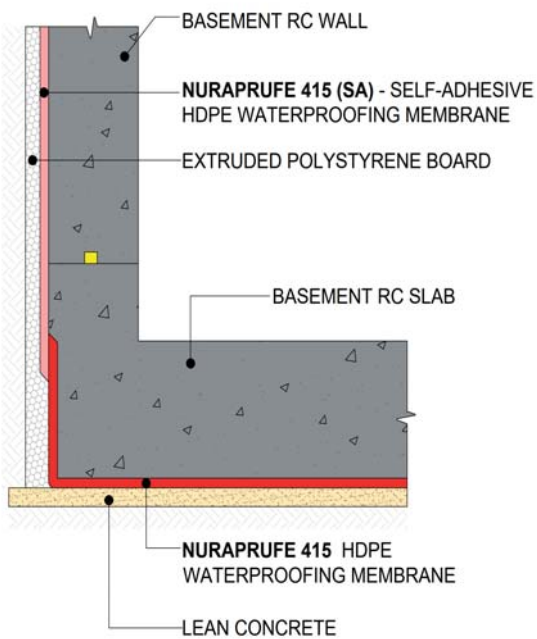
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Revision A

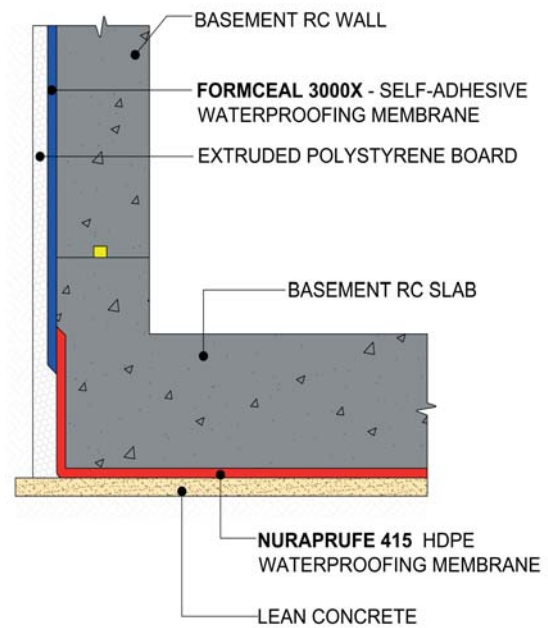
All data given and statements and recommendations made herein are based upon our research and experience and are believed to be accurate. However, no guarantee of their accuracy is made or applied. This data specification supersedes all other issues.

DIAGRAM OVERVIEW

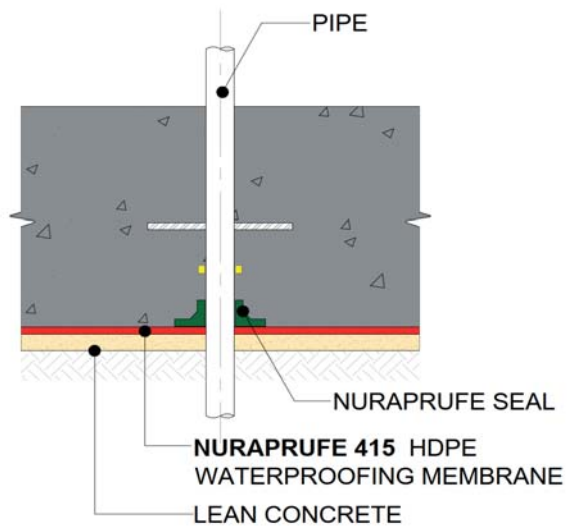
WALL AND SLAB



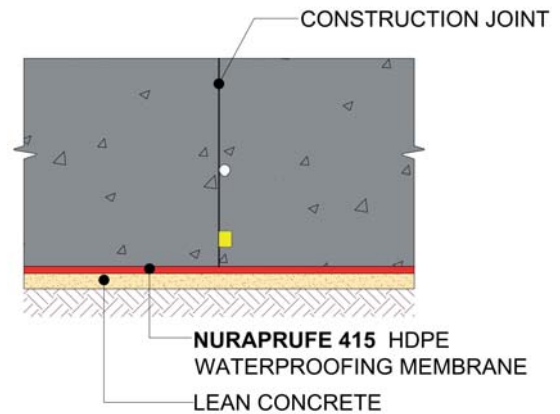
BASEMENT RC WALL AND SLAB



BASEMENT BASE SLAB PIPE PENETRATION



BASEMENT BASE SLAB CONSTRUCTION JOINT



MAJOR PROJECTS



HDB Sky Residence @ Dawson - Singapore



Digital Loyang II (SIN12) Project Sandman - Singapore



DUO Residences - Singapore



T301 - 4 in 1 Mega MRT Depot - Singapore



T310 - Bayshore MRT Station - Singapore



JTC 1 North Coast - Singapore



Greenbelt 5 - Manila Philippines



Dataran Shamelin, KL Malaysia



HSBC - Hongkong



Great World MRT Station - Singapore



Wisteria - Singapore



G1503 Highway & Zhoudeng Expressway
Pudong Hub - China



Stesen LRT 3 - Malaysia



Shui on Land Xintiandi Cuihu Tiandi
Phase 6 - China



National Museum- Singapore

Revision A

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