

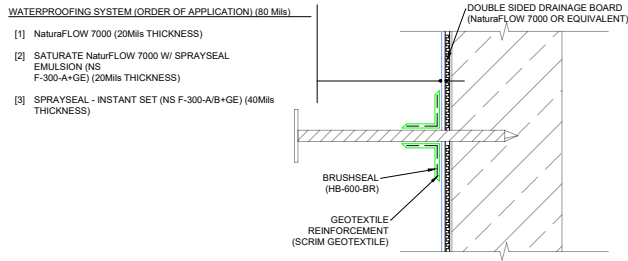
Date: 2026



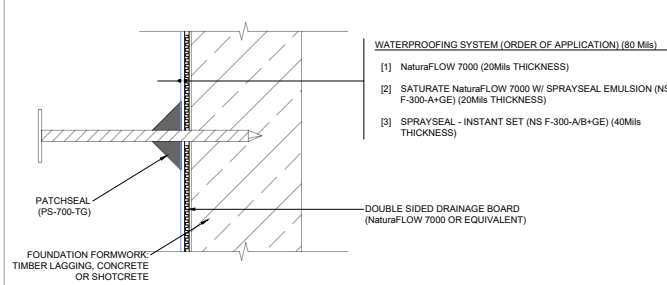
NaturaSeal Submittal Package

Application: Blindsided Waterproofing (LHS)

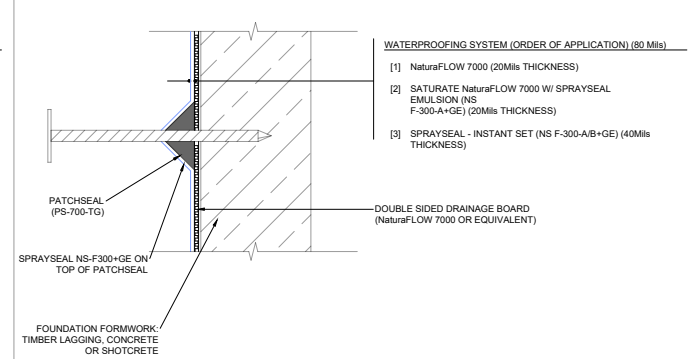
WIRE PENETRATION DETAILING - OPTION 1



WIRE PENETRATION DETAILING - OPTION 2



WIRE PENETRATION DETAILING - OPTION 3



SPRAYSEAL COMMERCIAL DETAILS (WEST-COAST CANADA) - LOW HYDROSTATIC - WIRE PENETRATIONS

DO NOT SCALE DRAWING NO VARIATIONS OR MODIFICATIONS TO WORK SHOWN SHALL BE IMPLEMENTED WITHOUT PRIOR WRITTEN APPROVAL ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION

Date: 2025/02/12

Scale: N.T.S

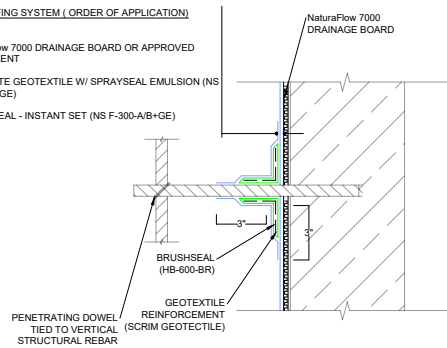
DRAWING NO:

NS.WC.BS.LH.08

REBAR TIE PENETRATION DETAILING - OPTION 1

WATERPROOFING SYSTEM (ORDER OF APPLICATION)

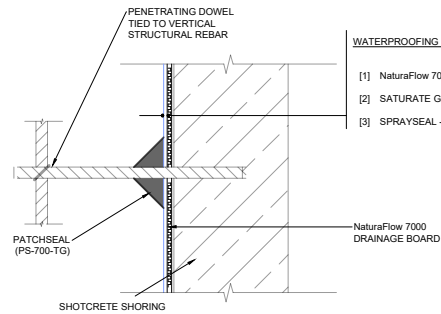
- [1] NaturaFlow 7000 DRAINAGE BOARD OR APPROVED EQUIVALENT
- [2] SATURATE GEOTEXTILE W/ SPRAYSEAL EMULSION (NS F-300-A+GE)
- [3] SPRAYSEAL - INSTANT SET (NS F-300-A/B+GE)



REBAR TIE PENETRATION DETAILING - OPTION 2

WATERPROOFING SYSTEM (ORDER OF APPLICATION)

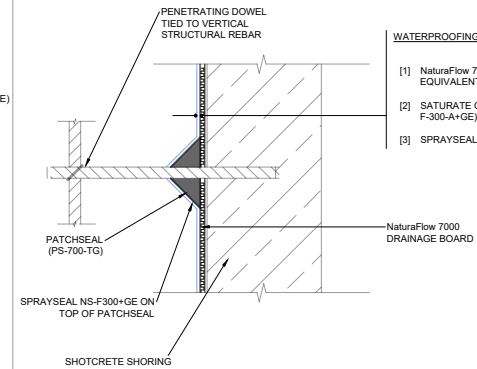
- [1] NaturaFlow 7000 DRAINAGE BOARD OR APPROVED EQUIVALENT
- [2] SATURATE GEOTEXTILE W/ SPRAYSEAL EMULSION (NS F-300-A+GE)
- [3] SPRAYSEAL - INSTANT SET (NS F-300-A/B+GE)



REBAR TIE PENETRATION DETAILING - OPTION 3

WATERPROOFING SYSTEM (ORDER OF APPLICATION)

- [1] NaturaFlow 7000 DRAINAGE BOARD OR APPROVED EQUIVALENT
- [2] SATURATE GEOTEXTILE W/ SPRAYSEAL EMULSION (NS F-300-A+GE)
- [3] SPRAYSEAL - INSTANT SET (NS F-300-A/B+GE)



SPRAYSEAL COMMERCIAL DETAILS - REBAR TIE DOWEL PENETRATIONS

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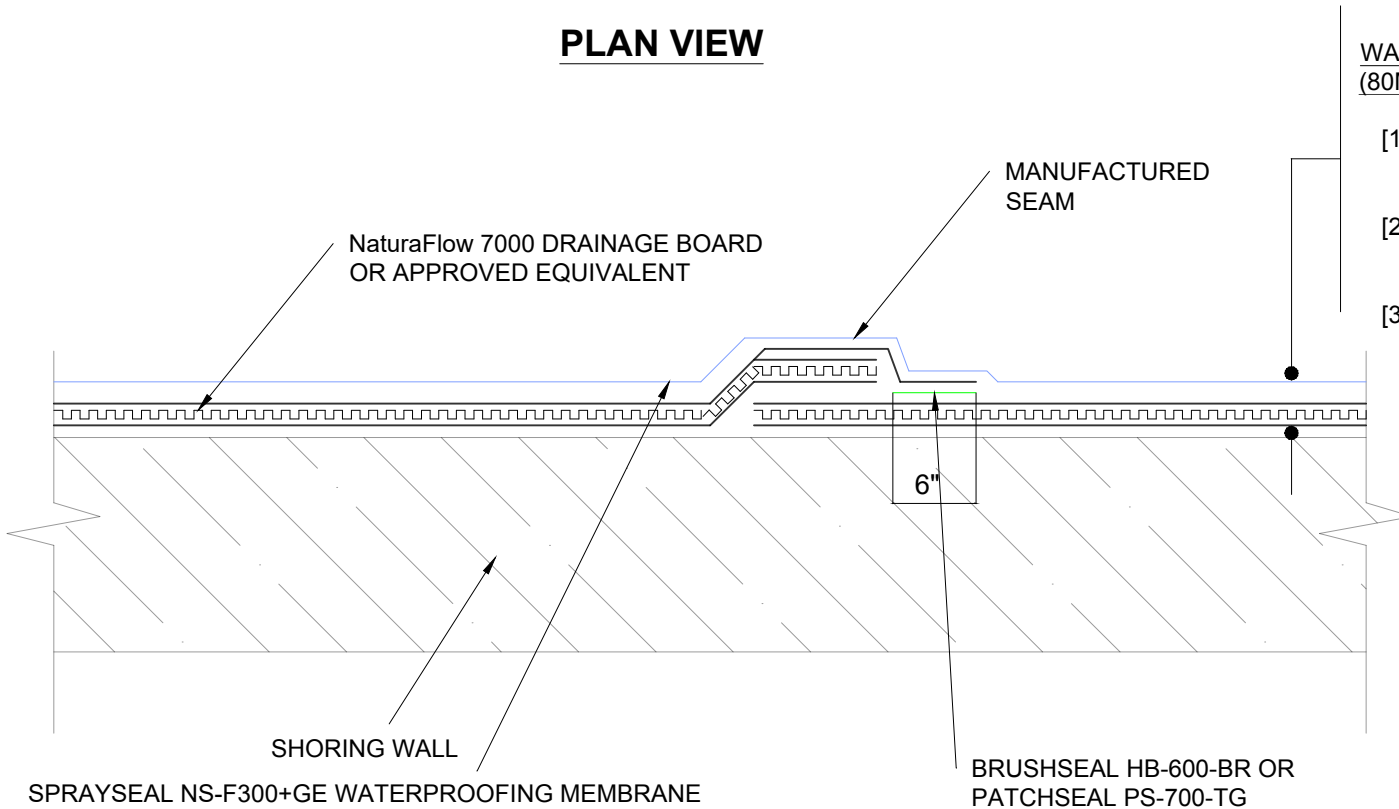
Date: 2025/12/15

Scale: N.T.S

DRAWING NO:

NS.WC.BS.LH.06

PLAN VIEW



WATERPROOFING SYSTEM (ORDER OF APPLICATION) (80Mils THICKNESS)

- [1] NaturaFlow 7000 DRAINAGE BOARD OR APPROVED EQUIVALENT (20 MILS THICKNESS)
- [2] SATURATE GEOTEXTILE W/ SPRAYSEAL EMULSION
- [3] SPRAYSEAL - INSTANT SET (NS F-300-A/B+GE)] (60 MILS THICKNESS)

NOTE: NS-TD 100
SEALANT IS ONLY
APPLICABLE TO
MANUFACTURED SEAMS



SPRAYSEAL COMMERCIAL DETAILS (WEST-COAST CANADA) - LOW HYDROSTATIC - NaturaFlow 7000 DRAINAGE BOARD LAP DETAIL)

DO NOT SCALE DRAWING NO VARIATIONS OR MODIFICATIONS TO WORK SHOWN SHALL BE IMPLEMENTED WITHOUT PRIOR WRITTEN APPROVAL ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION

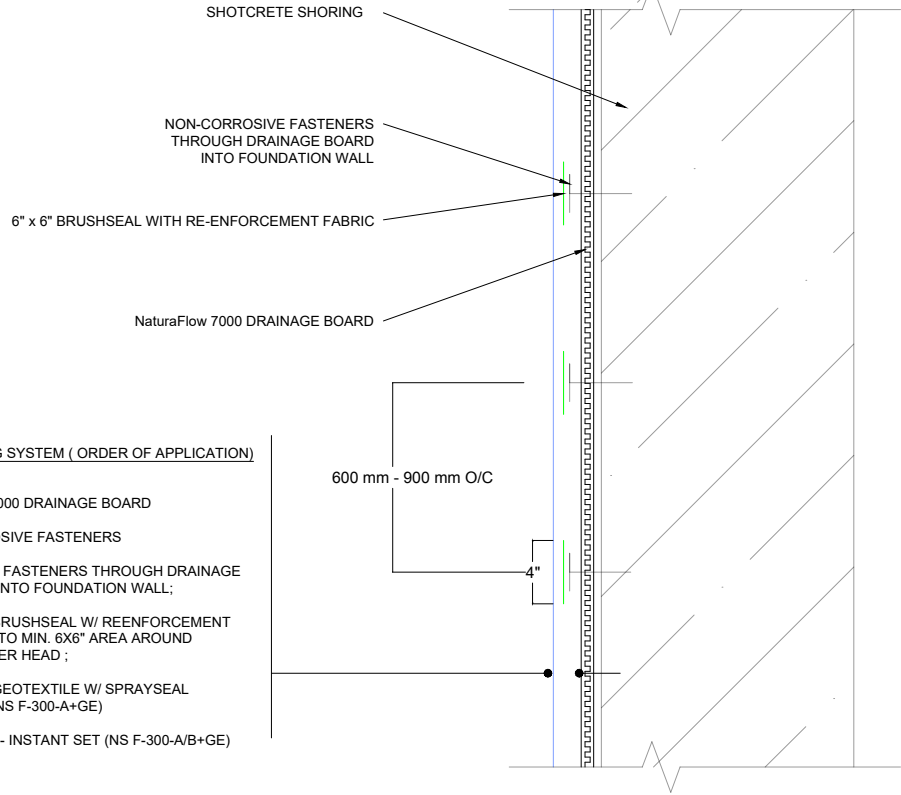
Date: 2025/10/24

Scale: N.T.S

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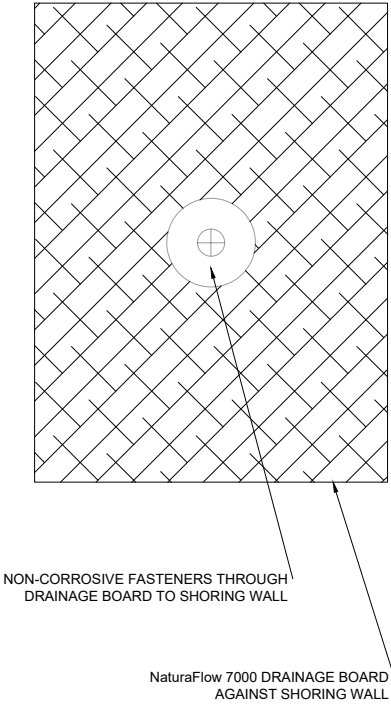
NS.WC.BS.LH.35

FASTENER DETAIL - SECTION VIEW

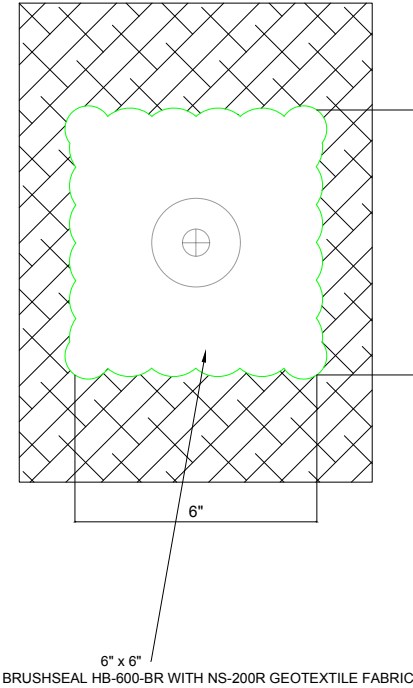


- WATERPROOFING SYSTEM (ORDER OF APPLICATION)**
(80Mils DFT)
- [1] NaturaFlow 7000 DRAINAGE BOARD
 - [2] NON-CORROSIVE FASTENERS
 - [A] INSTALL FASTENERS THROUGH DRAINAGE BOARD INTO FOUNDATION WALL;
 - [B] APPLY BRUSHSEAL W/ REENFORCEMENT FABRIC TO MIN. 6X6" AREA AROUND FASTENER HEAD ;
 - [3] SATURATE GEOTEXTILE W/ SPRAYSEAL EMULSION (NS F-300-A+GE)
 - [4] SPRAYSEAL - INSTANT SET (NS F-300-A/B+GE)

FASTENER DETAIL (ELEVATION) - STEP 1



FASTENER DETAIL (ELEVATION) - STEP 2



SPRAYSEAL COMMERCIAL DETAILS -
FASTENER PENETRATION PATCH DETAIL

DO NOT SCALE DRAWING NO VARIATIONS OR MODIFICATIONS TO WORK SHOWN SHALL BE IMPLEMENTED WITHOUT PRIOR WRITTEN APPROVAL ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION

Date: 2025/10/21

Scale: N.T.S

DRAWING NO:

NS.WC.BS.LH.31

MOUNT THE PIPE,
ENSURE NO MOVEMENT
DURING CONCRETE
POUR

SHOTCRETE SHORING

SPRAYSEAL NS-F300+GE @80 mils DFT

REINFORCEMENT SYSTEM (ORDER OF APPLICATION)

- [1] BRUSHSEAL OR SPRAYSEAL - EMULSION (HB600 BR OR NS F-300-A)
- [2] GEOTEXTILE REINFORCEMENT (200R) (12")
- [3] BRUSHSEAL OR SPRAYSEAL - EMULSION (HB600 BR OR NS F-300-A)

PATCHSEAL PS-700-TG (IF REQUIRED)

NaturaFlow 7000 DRAINAGE BOARD



SPRAYSEAL COMMERCIAL DETAILS (WEST-COAST CANADA) - LOW HYDROSTATIC - BLINDSIDE PIPE PENETRATION ON WALL DETAIL

DO NOT SCALE DRAWING NO VARIATIONS OR MODIFICATIONS TO WORK SHOWN SHALL BE IMPLEMENTED
WITHOUT PRIOR WRITTEN APPROVAL ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED BY THE
LATEST REVISION

Date: 2025/12/08

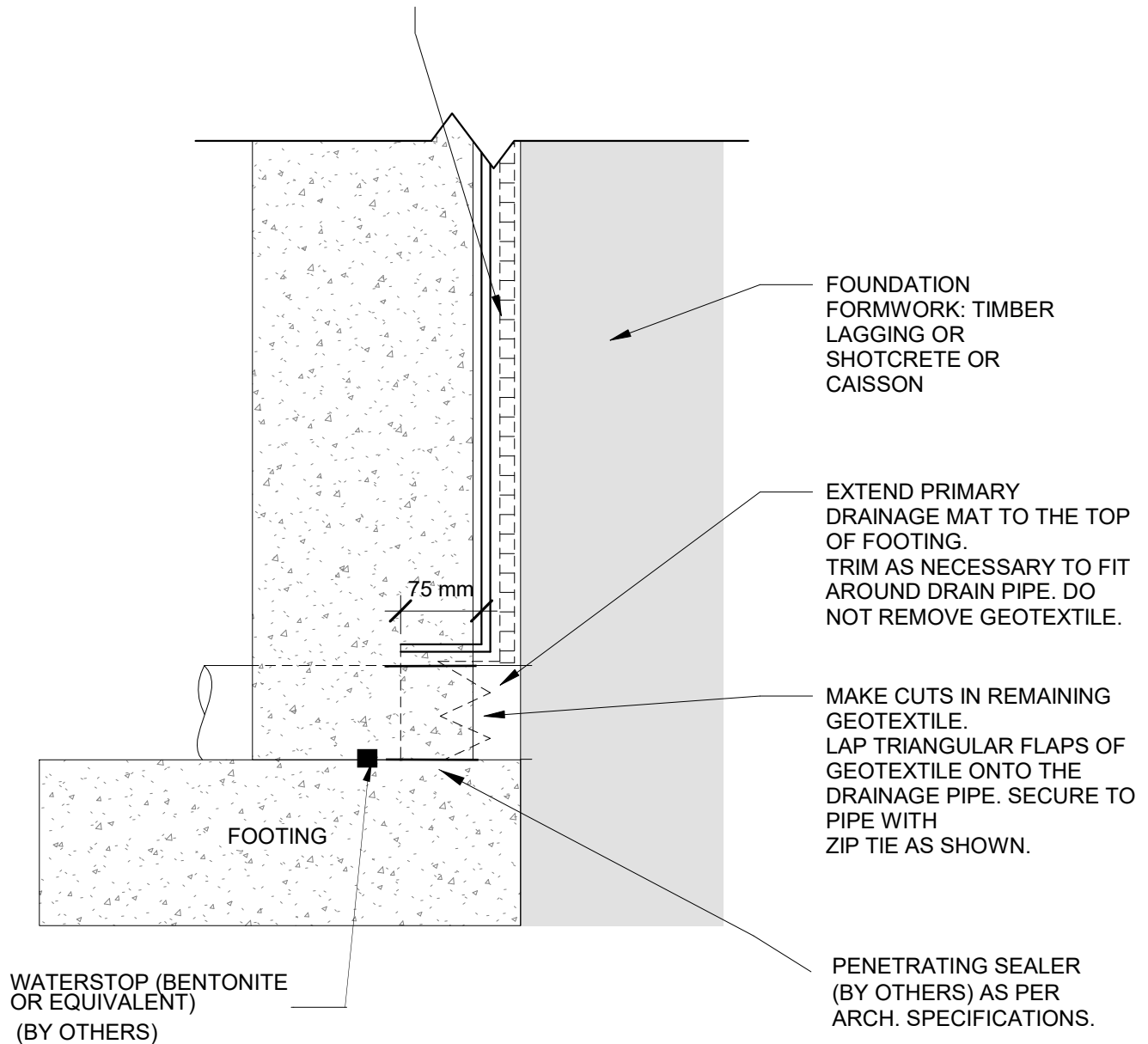
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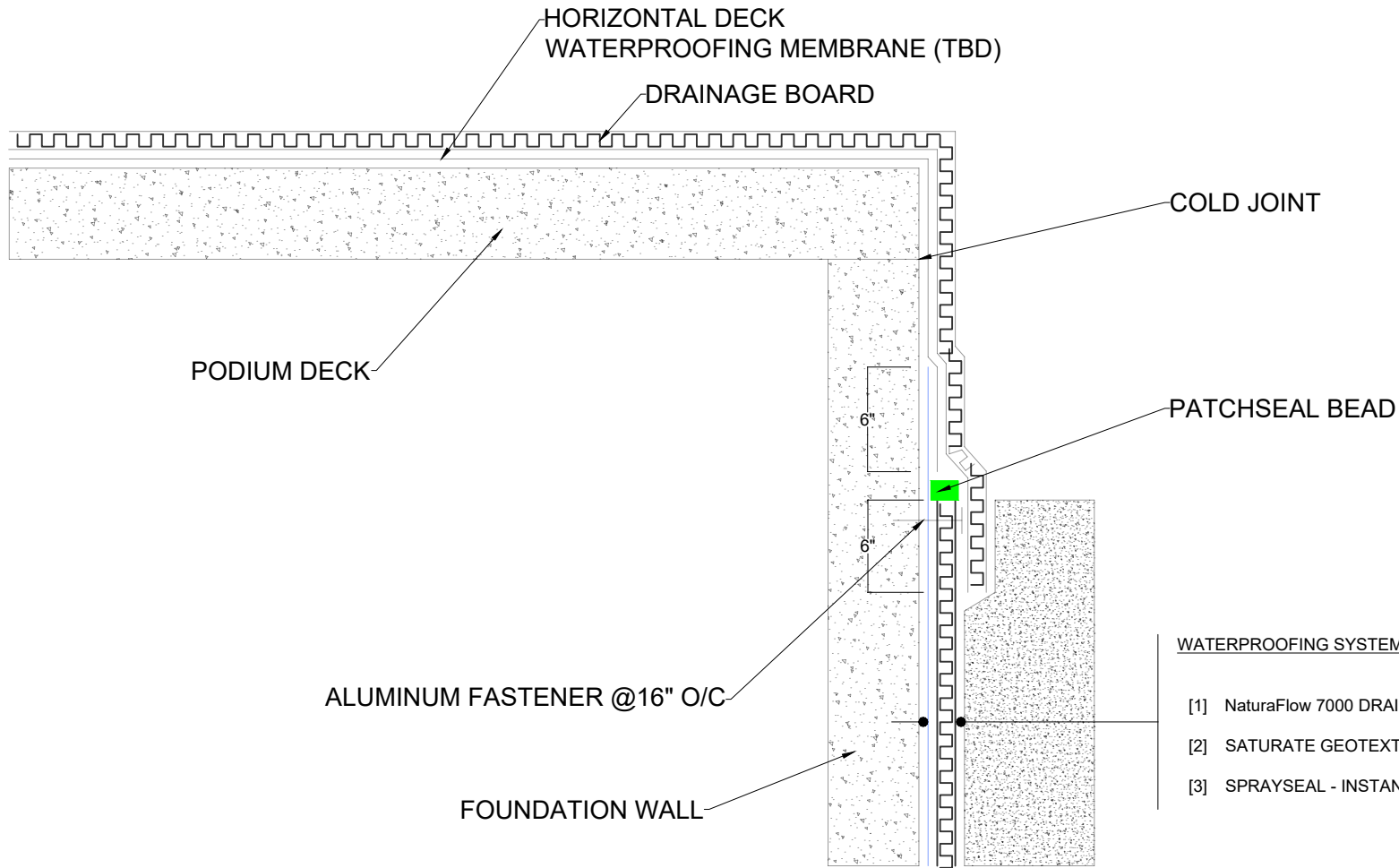
DRAWING NO:

NS.WC.BS.LH.40

WATERPROOFING SYSTEM (ORDER OF APPLICATION)

1. DRAINMAT DOUBLESIDED W/ GEOTEXTILE (NaturaFLOW 7000 DRAINAGE BOARD) 20 mils DFT (0.5mm)
 2. SPRAYSEAL - INSTANT SET (NS F-300 - A/B) 60 mils DFT (1.5 mm)
- TOTAL SYSTEM THICKNESS: 80 mils DFT (2 mm)





WATERPROOFING SYSTEM (ORDER OF APPLICATION)

- [1] NaturaFlow 7000 DRAINAGE BOARD OR APPROVED EQUIVALENT
- [2] SATURATE GEOTEXTILE W/ SPRAYSEAL EMULSION (NS F-300-A+GE)
- [3] SPRAYSEAL - INSTANT SET (NS F-300-A/B+GE)



SPRAYSEAL COMMERCIAL DETAILS - BLINDSIDE TO PODIUM DECK TRANSITION DETAIL

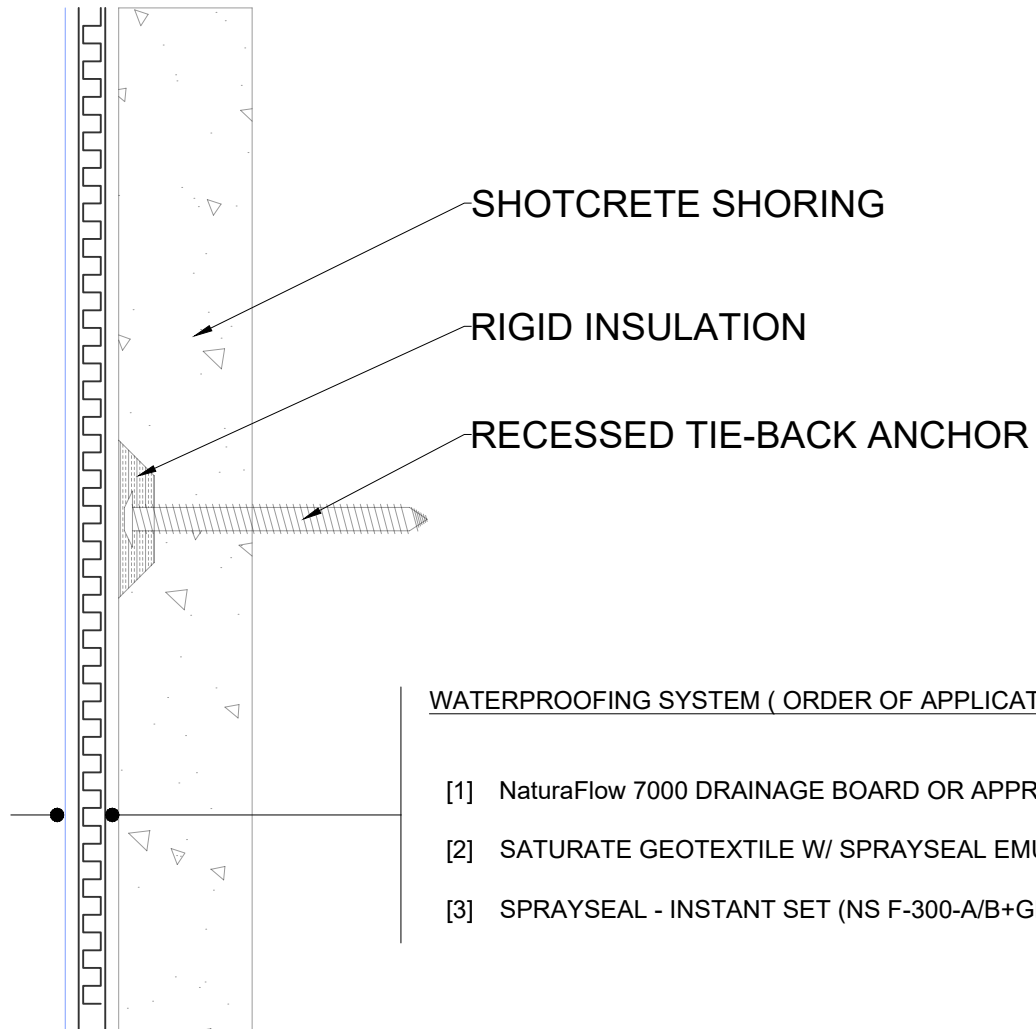
DO NOT SCALE DRAWING NO VARIATIONS OR MODIFICATIONS TO WORK SHOWN SHALL BE IMPLEMENTED WITHOUT PRIOR WRITTEN APPROVAL ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION

Date: 2026/01/09

Scale: N.T.S

DRAWING NO:

NS.WC.BS.LH.42



SPRAYSEAL COMMERCIAL DETAILS - RECESSED BLINDSIDE TIE-BACK ANCHOR DETAIL

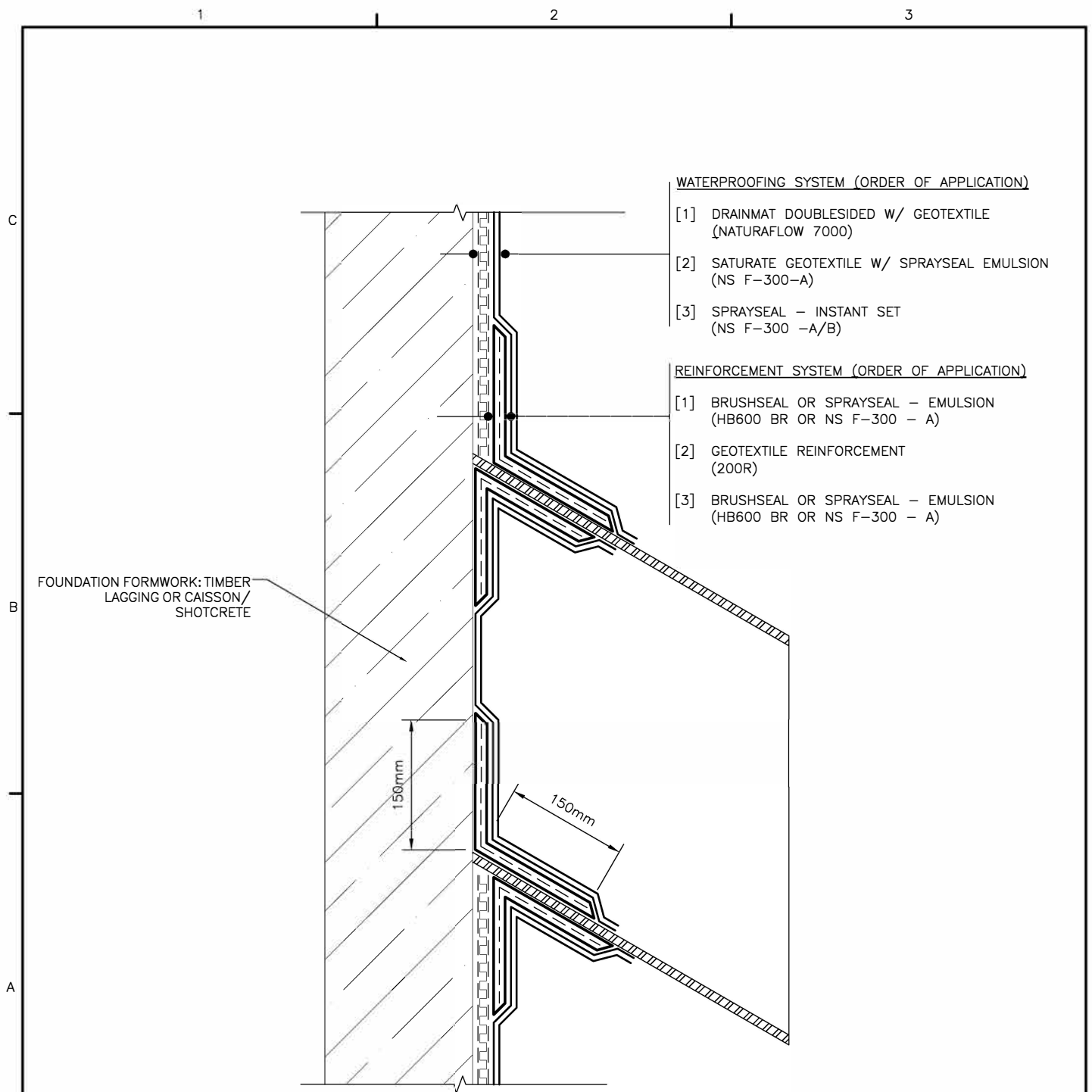
DO NOT SCALE DRAWING NO VARIATIONS OR MODIFICATIONS TO WORK SHOWN SHALL BE IMPLEMENTED WITHOUT PRIOR WRITTEN APPROVAL ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION

Date: 2026/01/08

Scale: N.T.S

DRAWING NO:

NS.WC.BS.LH.43



DRAWING PREPARED BY: 



SPRAYSEAL COMMERCIAL DETAILS – BLIND SIDE FOUNDATION WALL RAKER

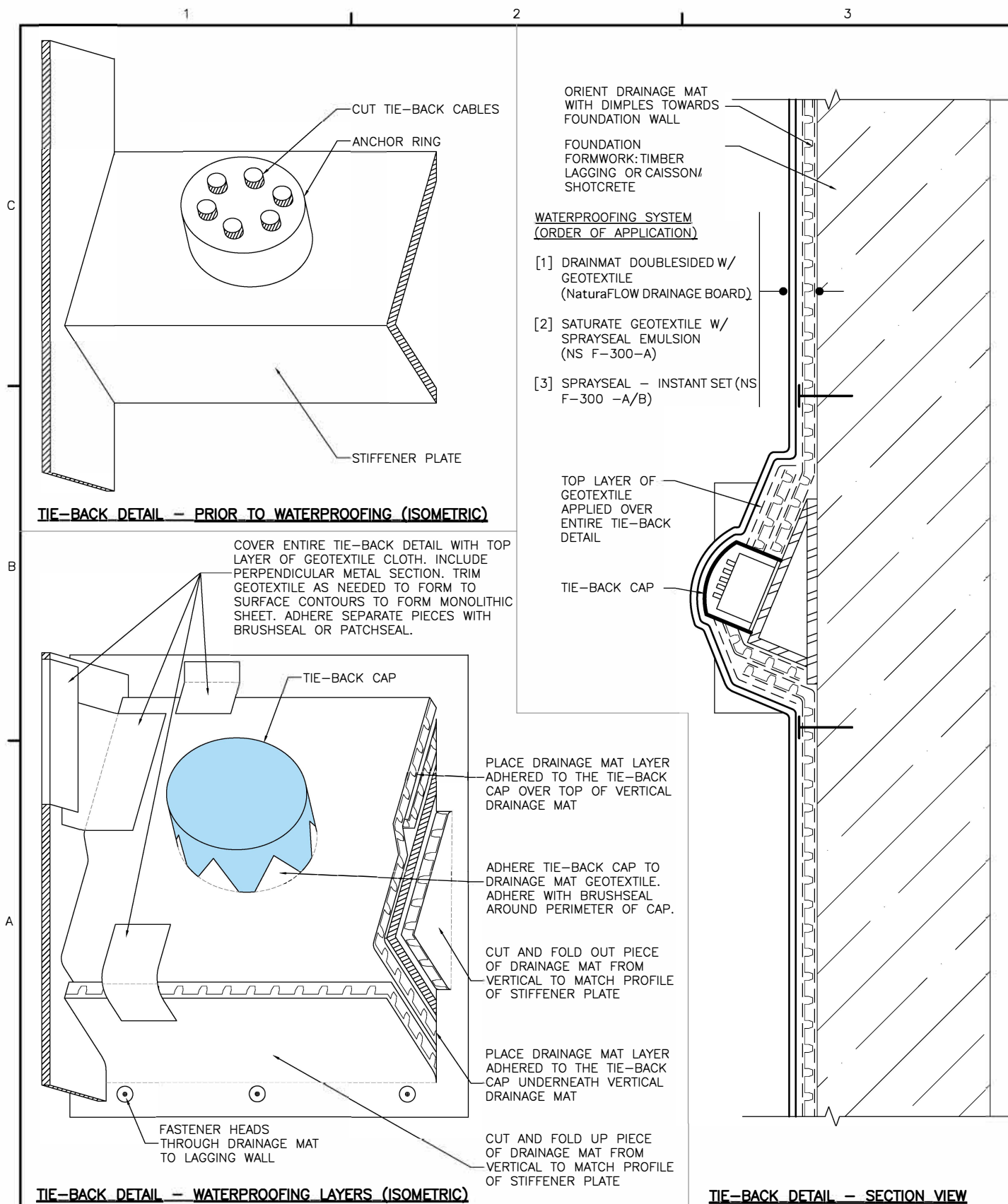
DO NOT SCALE DRAWINGS. NO VARIATIONS OR MODIFICATIONS TO WORK SHOWN SHALL BE IMPLEMENTED WITHOUT PRIOR WRITTEN APPROVAL. ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION.

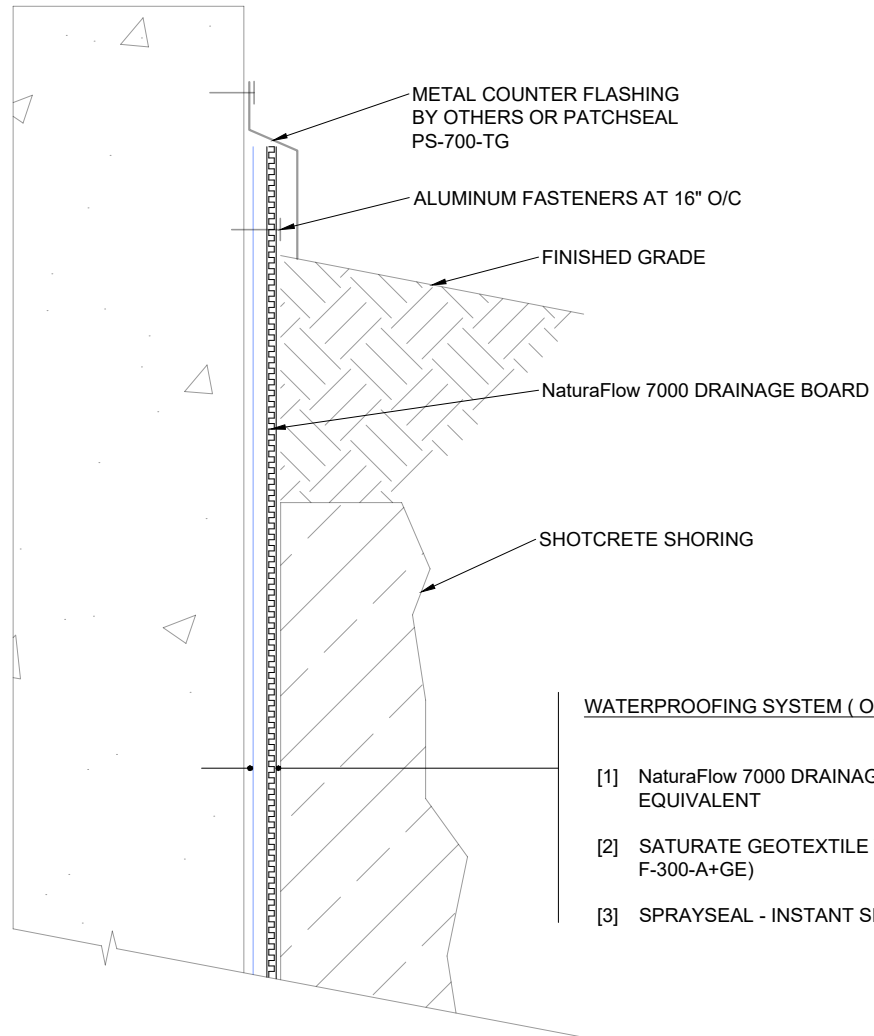
Date: DECEMBER 10, 2018

Scale: N.T.S.

Drawing No.:

SS.BS.T.05





WATERPROOFING SYSTEM (ORDER OF APPLICATION)

- [1] NaturaFlow 7000 DRAINAGE BOARD OR APPROVED EQUIVALENT
- [2] SATURATE GEOTEXTILE W/ SPRAYSEAL EMULSION (NS F-300-A+GE)
- [3] SPRAYSEAL - INSTANT SET (NS F-300-A/B+GE)



SPRAYSEAL COMMERCIAL DETAILS - BLINDSIDE FOUNDATION WALL TERMINATION AT GRADE

DO NOT SCALE DRAWING NO VARIATIONS OR MODIFICATIONS TO WORK SHOWN SHALL BE IMPLEMENTED WITHOUT PRIOR WRITTEN APPROVAL ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION

Date: 2025/12/15

Scale: N.T.S

DRAWING NO:

NS.WC.BS.LH.09

SpraySeal™ NS-F300 + GE

Dual Component, Fluid-Applied, Elastomeric, Non-Permeable Membrane

TECHNICAL DATA SHEET F300GE062525NNA01

DESCRIPTION

SpraySeal™ NS-F300 + GE is a dual-component, asphalt based, elastomeric coating for commercial waterproofing, such as Open-cut waterproofing, Horizontal Decks, Blindside applications, including Shot-Crete, and more. NS-F300 + GE is weather resistant, eco-friendly, safe to use, and can be applied onto green concrete. NS-F300 + GE is a highly versatile elastomeric coating that is cold-applied using a spray- system to create a durable, seamless membrane. It can be used to cover a wide variety of surfaces. With its unsurpassed ability to expand and contract, it can easily withstand all weather conditions. SpraySeal™ NS-F300 + GE (Geotextile) can also be used in combination with a geotextile fabric for superior strength.

NaturaSeal® - PMAE TECHNOLOGY

NaturaSeal manufactures products utilizing unique green PMAE Technology and raw materials that are derived from recycled effluent asphalt, wood chip and paper pulp.

BENEFITS

- Used on concrete foundation walls
- Withstands temperature changes and surface shifts without becoming cracked or strained
- Superior resistance to hydrostatic head pressure
- Highly elastomeric
- Self-heals if it is punctured
- Environmentally friendly and free of toxins and VOCs

INSTALLATION



SPRAY APPLIED

APPLICATION

- Pre-applied Waterproofing
- Vertical Shoring System
- Horizontal Underslab System
- Post-Applied Waterproofing

HEALTH SAFETY AND ENVIRONMENT

SpraySeal™ F300 + GE does not contain any substance likely to be detrimental to health or to the environment. For further information please refer to relevant Material Safety Data Sheet (MSDS).

INSTALLATION GUIDELINES

- All substrates must be clean and free of debris, dirt and mildew.
- Do not apply when subjected to heavy rain.
- Temperature and humidity conditions will affect drying time.

For further information refer to NaturaSeal installation guides.

COMPONENTS

- Natura HDPro
- BrushSeal HB-600-BR
- PatchSeal PS-700-TG
- NS-200R Geotextile Fabric
- NS-SALT



SUSTAINABILITY

NaturaSeal® products support sustainable and energy-efficient building practices, and achieving LEED® certification (LEED® for New Construction).



COVERAGE

Dry Film Thickness (DFT)	SF/Gallon
40 Mills	26.07
60 Mills	17.38
80 Mills	13.03
100 Mills	10.43
120 Mills	8.68

SpraySeal™ NS-F300 + GE is firm to touch in one (1) minute @ 20°C (68°F) and is completely cured in 48 hrs. This curing time may vary depending on temperature and relative humidity (24-48 hrs). For approximate drum coverage, refer to NaturaSeal Coverage Literature.

QUALITY MANAGEMENT

NaturaSeal is committed to creating unparalleled new technologies, minimizing the negative impacts on the environment and communities. Our manufacturing facilities are independently monitored and certified CE, ISO 9001, ISO 14001, ISO 45001 and DM-DCLD PRODUCT CONFORMITY, 2023 AL SA'FAT DUBAI GREEN BUILDING SYSTEM

- Please refer to NaturaSeal for the most up-to-date Technical Data Sheet (TDS).
- NaturaSeal Material Safety Data Sheet (MSDS) are in alignment with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) requirements.

SHELF LIFE

Material will have a 12-month shelf life if stored in a dry and properly ventilated space, protected from the elements or any harmful substances.

STORAGE AND USE

- Mix each drum for 5-7 minutes prior to use.
- Ensure lids to drums are sealed, and air-tight prior to use.
- Do not store in direct sunlight max 32°C (90°F) or below 5°C (41°F).
- Avoid storing or using the product in temperatures below 4.5°C (40.1°F) without a winterized kit.
- When used for Blindside applications, NS F-300 + GE is intended to be installed along with a DELTA-NaturaDrain drainage membrane.

NATURASEAL NORTH AMERICA

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www.naturaseal.ae | contact.international@naturaseal.ae

SpraySeal™ NS-F300 + GE

Dual Component, Fluid-Applied, Elastomeric, Non-Permeable Membrane

TECHNICAL DATA SHEET F300GE062525NNA01

APPROVALS / CERTIFICATE

CE Marking, ISO 9001:2015, ISO 14001:2015, ISO 45001:2018
 CERTIFICATE OF PRODUCT CONFORMITY - DM-DCLD-RD-DP21-2001 (IC)

TECHNICAL INFORMATION

Performance (Cured Membrane)	ASTM Method	Results
Thickness (mm/mils)	D5147	3/120
Peak Load @ 23°C (73.4°F) MD ; kN/m	D5147	7.1
Peak Load @ 23°C (73.4°F) XD ; kN/m		
Elongation at break (%) MD	D5147	179
Elongation at break (%) XD		
Tensile Strength, MPa (psi) (After 7 days in the water)	D882	3.5 (514)
Elongation (%) (After 7 days in water)	D882	183
Tear Strength (N MD)	D4073	418
Tear Strength (N XD)		
Low Temperature Flexibility @ -20°C (-4°F)	D5147	Unaffected
Water Vapor Permeance (ng/Pa.s.m²) (US perms)	E96, Method B	0.02 (0.00035) Unaged 0.03 (0.00052) After Conditioning
Adhesion to Concrete @ 22°C (71.6°F), N/m(lbf/in)	D903	4560 (26.04)
Resistance to Hydrostatic Head ft (m)	D5385M	
100psi (2mm)		271 (82)
150psi (3mm)		346 (105)
Gas Permeability (methane) cm²/s @ 1atm cm³ x cm/cm³ x s x Pa	D1434	2.54 x 10-8 2.51 x 10-13
Dimensional Stability, %	D1204 & D5147	
Length		0.2
Width		0.2
Puncture Resistance, N (lbf)	E154	909 (204)
Lateral Water Migration Resistance (PSI)	D5385	Pass at >100 PSI

Information contained in this data sheet is up-to-date and correct as at the date of issue. All value represented are nominal and subject to 10% tolerance unless noted otherwise.

1. Elongation of polymerized modified asphalt compound
2. Permeance to water vapour transmission (HSPE side)
3. Allow poured concrete to properly cure (28 days). Peel adhesion of Membrane to concrete is measured at a rate of 50 mm/min at 22°C (71.6°F)
4. Water temperature 22°C (71.6°F), duration of 1 hour
5. Water temperature 22°C (71.6°F), duration of 1 hour
6. Test conducted at 3.25 mm
7. Test temperature 70°C (158°F), Test duration 72 hours

We warranty that our products are in conformance with the standards of quality control established by NaturaSeal. As we cannot control or anticipate the conditions under which the products may be used, each user should review the information in specific context of the planned use. NaturaSeal makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE with respect to NaturaSeal Products.

To the maximum extent permitted by law, we will not be responsible for damages of any nature resulting from the use or reliance upon the information contained in this data sheet. Please contact NaturaSeal for applicable warranty programs and general terms and conditions.

AFFILIATES



PIONEERING THE FUTURE TODAY

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NaturaFlow 7000™ Drainage Board

Heavy Duty Vertical Drainage Applications with Waterproofing

TECHNICAL DATA SHEET NFDD062525NNA01

DESCRIPTION

NaturaFlow 7000™ Drainage Board is a high performance, 3-dimensional drainage composite with three layers. It consists of a dimpled drainage core and two layers of high strength polypropylene (PP) geotextile. One geotextile (black) is heat-bonded to dimples, the other geotextile (white) is fully adhered to the backside of the drainage core. This provides a smooth surface for the application of liquid applied waterproofing membrane. The drainage core is made from a special high-density polyethylene (HDPE) that provides high-impact and tear-resistance, and is unaffected by environmental stress-cracking. The non-clogging geotextile is fully bonded to the dimpled drainage core, which prevents it from being pushed into the flow channels.

NaturaSeal® - TRIPLE LOCK MECHANISM

NaturaFlow 7000™ Drainage Board composite and protection panel provides a triple lock mechanism at each seam with its exclusive pressure sensitive edge. It is the ideal solution for applications in high water tables with high levels of hydrostatic pressure.

BENEFITS

- Relieve hydrostatic pressure buildup
- High impact and tear resistance
- Unaffected by environmental stress-cracking
- Excellent visual aid for installers
- Easy and quick to install in all details
- Rot proof drainage and protection panel

INSTALLATION



ROLL

APPLICATION

- Vertical and Horizontal Drainage Panel
- Vertical and Horizontal Protection Panel
- Blindside Waterproofing
- Surface Carrier for Liquid Waterproofing

HEALTH SAFETY AND ENVIRONMENT

The materials do not contain any substance likely to be detrimental to health or to the environment and complies with generally accepted health and safety requirements. For further information please refer to relevant Material Safety Data Sheet in force.

INSTALLATION GUIDELINES

- Do not apply during high wind
- Do not expose materials to acid and solvent base chemicals
- For application below 0°C (32°F) please refer to NaturaSeal guidelines for winterized kits

For further information please refer to the relevant Work Method Statement (WMS).

COVERAGE

Size	Weight
7.48' x 50'	39 kg



SUSTAINABILITY

NaturaSeal® products support sustainable and energy-efficient building practices, and achieving LEED® certification (LEED® for New Construction).



COMPONENTS

NaturaFlow 7000™ Drainage Board is used as an ancillary in combination with all NaturaSeal Cold-Applied PMAE™ series of products.

QUALITY MANAGEMENT

NaturaSeal® stands confidently behind every product with high standards of quality, and satisfying strict underwriting criteria. We operate a high level quality assurance, quality control audits and health and safety management system to ensure compliance with the technical specifications.

- Please refer to NaturaSeal for the most up-to-date Product Data Sheet (PDS).
- All NaturaSeal Safety Data Sheet (SDS) are in alignment with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) requirements.

SHELF LIFE

Material shall be stored in a dry and properly ventilated space, protected from the elements or any harmful substances. Material shall be adequately protected from environmental impacts to the properties or the performance of the membrane.

STORAGE AND USE

The material must be stored in shaded spaces, protected from exposure to direct sunlight, extreme hot and moist. Material must be kept away from heat and flammable materials. Avoid stacking heavier pallets of materials on top of this product.

NATURASEAL NORTH AMERICA

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NaturaFlow 7000™ Drainage Board

Heavy Duty Vertical Drainage Applications with Waterproofing

TECHNICAL DATA SHEET NFDD062525NNA01

TECHNICAL PROPERTIES

Drainage Core	ASTM Method	Results	tol
Raw material		HDPE (black colour)	
Dimple height		approx 2/5"	
Studs for square meter (n/m²)		2500	
Drainage core Max. Tearing Strength (N)	D 5884-04	>100 (CMD); >180 (MD)	
Filter Geotextiles	PP Non-Woven		
Black Fabric:			
Raw material			
Grab tensile Strength	D 4632	>0.36 kN / >80 lbs	
Grab tensile elongation	D 4632	50%	
AOS	D 4751	0.33 mm / 50 US Sieve	
CBR puncture	D 6241	>0.76 kN / >170 lbs	
Trapezoid tear strength	D 4533	0.11 kN / 25 lbs	
Water flow rate	D 4491	150 gpm/sqft	
Permittivity	D 4491	1.70 1/s	
Weight	D 45261-92	110 g/m²	
White Back Sheet Fabric (NS-200R):			
Raw Material	White fabric is at least 10 cm wider than the full width of the plastic		
Physical/Mechanical Characteristics			
Thickness	D 1777	10.5 mm / 0.4 in	
Compressive strength	D 1621	350 kN/m² / 7300 psf	
Drain flow capacity MD, i = 1	D 4716	21 gal/(ft*min)	-20%
Drain flow capacity MD, i = 0.1	D 4716	6.3 gal/(ft*min)	-20%
Standard Dimensions			
Roll width (dimple area)		7.2 ft	± 3%
Roll width with plastic flat tab		7.5 ft	± 3%
Roll length		50 ft	± 2%
Roll diameter		18 in	± 0.5%
Rolls/pallet (40" x 48")		6 per piece	

*final pallet configuration to be confirmed

Service Life Expectancy : according to EN ISO 13252 product is predicted to be durable in natural soil with pH between 4 and 9 and temperature below 77°F / 25°C for minimum 25 years and product to be covered after installation within 1 month.

Information contained in this data sheet is up-to-date and correct as at the date of issue. All value represented are nominal and subject to 10% tolerance unless noted otherwise.

We warranty that our products are in conformance with the standards of quality control established by NaturaSeal. As we cannot control or anticipate the conditions under which the products may be used, each user should review the information in specific context of the planned use. NaturaSeal makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE with respect to NaturaSeal Products.

To the maximum extent permitted by law, we will not be responsible for damages of any nature resulting from the use or reliance upon the information contained in this data sheet.

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www.naturaseal.ae | contact.international@naturaseal.ae



BrushSeal™ HB-600-BR

Modified Elastomeric Bitumen Emulsion

TECHNICAL DATA SHEET BSHB062525NNA01

DESCRIPTION

BrushSeal™ HB-600-BR is an elastomeric coating for roofs, decks, metal surfaces and more. BrushSeal™ HB-600-BR offers waterproofing, corrosion protection and weather resistance. BrushSeal is a cold-applied product that creates a durable, leak-proof membrane that expands and contracts as weather conditions change. This highly versatile product can be used for a variety of applications both indoors and outdoors, and is easily applied using a brush, roller or squeegee.

NaturaSeal® - PMAE TECHNOLOGY

NaturaSeal manufactures products utilizing unique green PMAE Technology and raw materials that are derived from recycled effluent asphalt, wood chip and paper pulp.

BENEFITS

- Suitable for all waterproofing and corrosion protection purposes
- Elongates more than 850%, with 96% recovery
- Can withstand temperature changes and surface shifts without cracking
- The product self-heals if it is punctured
- Adheres to almost any material, including wood, metal, foam, concrete and tile
- Environmentally friendly, and free of toxins and VOCs

INSTALLATION



BRUSH APPLIED

APPLICATION

- Corrosion Protection
- Waterproofing
- Roofing
- Damp Proofing
- Mold Proofing

HEALTH SAFETY AND ENVIRONMENT

BrushSeal™ HB-600-BR does not contain any substance likely to be detrimental to health or to the environment. For further information please refer to relevant Material Safety Data Sheet (MSDS).

INSTALLATION GUIDELINES

- All substrates must be clean and free of debris, dirt and mildew.
- Do not apply when subjected to rain.
- Temperature and humidity conditions will affect drying time.

For further information refer to NaturaSeal installation guides.

COMPONENTS

- PatchSeal PS-700-TG
- NS-200R Geotextile Fabric

STORAGE AND USE

- Ensure all pail lids are sealed and air-tight prior to use.
- Properly mix each drum or pail prior to use.
- Do not store in direct sunlight of temperatures $\geq 32^{\circ}\text{C}$.
- Avoid storing or using the product in temperatures $\leq 5^{\circ}\text{C}$.



SUSTAINABILITY

NaturaSeal® products support sustainable and energy-efficient building practices, and achieving LEED® certification (LEED® for New Construction).



COVERAGE

Dry Film Thickness (DFT)	SF/Gallon
40 Mils	22

BrushSeal™ HB-600-BR is completely cured in 12-48 hrs. This curing time may vary depending on temperature and relative humidity.

QUALITY MANAGEMENT

NaturaSeal is committed to creating unparalleled new technologies, minimizing the negative impacts on the environment and communities. Our manufacturing facilities are independently monitored and certified CE, ISO 9001, ISO 14001, ISO 45001 and DM-DCLD PRODUCT CONFORMITY, 2023 AL SA'FAT DUBAI GREEN BUILDING SYSTEM

- Please refer to NaturaSeal for the most up-to-date Technical Data Sheet (TDS).
- NaturaSeal Material Safety Data Sheet (MSDS) are in alignment with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) requirements.

SHELF LIFE

Material will have a 12-month shelf life if stored in a dry and properly ventilated space, protected from the elements or any harmful substances.

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BrushSeal™ HB-600-BR

Modified Elestomeric Bitumen Emulsion

TECHNICAL DATA SHEET BSHB062525NNA01

APPROVALS / CERTIFICATE

CE Marking, ISO 9001:2015, ISO 14001:2015, ISO 45001:2018
CERTIFICATE OF PRODUCT CONFORMITY - DM-DCLD-RD-DP21-2001 (IC)

PRODUCT INFORMATION

Physical Properties	Typical Results
Specific Gravity (liquid)	Approx. 1.0
Odour	None
VOC	Contains no solvents
Colour	Brown to black
% Solids (wt.)	62%
Viscosity, Brookfield, sp. #55, 20 rpm	8,000-9,000
pH	10-12

TECHNICAL INFORMATION

Performance (Cured Membrane)	ASTM Method	Typical Results
Colour		Black
Specific Gravity (g/cm³)		Approx. 1.0
Chemical Resistance	D1308 - 20	No significant changes were observed. See chemical resistance chart for further information.
Water Tightness After Impact		Passed (no leakage)
Water Tightness	CGSB 37-GP-56	Zero leakage
Biological Resistance	E154, 0412	Passed (>90% original value)
Impact Resistance (23°C/73.4°F, lbs)	CGSB 37-GP-500	Passed (168)
Tensile Strength (psi)	D412	90
Elongation (%)	D412-16	864
Accelerated Weathering	G155, 0 412	Passed (no deterioration of film)
Tensile Strength		Passed (>90% original value)
Hardness, durometer type 00		85-87
Adhesion to concrete	C907	765 kPa
Hardness	D2246	50 Type A
Puncture Resistance	CGSB 37-GP-56	No perforations
Water Vapour Permeance* (Method-B- Water Method) (perms)	E96, E96M-24a	0.062
Recovery (%)	D412-16	96
Low Temperature Flexibility @ -30°C / -22°F	D5147/D5147M-18	No cracks were observed
Nail Sealability	D1970, D1970M-21	Pass
Crack Bridging Ability @ 3.2mm	C1305/C1305M-16(2023) C836/C836M-18(2022)	After 10 cycles of testing in 3.2 mm up-and-down movement, No sign of cracks, loss of adhesion or any other type of failure was observed.

Information contained in this data sheet is up-to-date and correct as at the date of issue. All value represented are nominal and subject to 10% tolerance unless noted otherwise.

We warrant that our products are in conformance with the standards of quality control established by NaturaSeal. As we cannot control or anticipate the conditions under which the products may be used, each user should review the information in specific context of the planned use. NaturaSeal makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE with respect to NaturaSeal Products.

To the maximum extent permitted by law, we will not be responsible for damages of any nature resulting from the use or reliance upon the information contained in this data sheet. Please contact NaturaSeal for applicable warranty programs and general terms and conditions.

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PatchSeal™ PS-700-TG

Trowel Applied, Elastomeric Coating

TECHNICAL DATA SHEET PS700062525NNA01

DESCRIPTION

PatchSeal™ PS-700-TG is an elastomeric asphalt emulsion designed for application by trowel or caulking tube. Superior qualities of strength, durability, elasticity and adhesion.

PatchSeal™ PS-700-TG is a modified asphalt emulsion designed for use in a variety of applications. It is easily applied using a trowel or caulking tube, and it can be used both indoors and outdoors.

NaturaSeal® - PMAE TECHNOLOGY

NaturaSeal manufactures products utilizing unique green PMAE Technology and raw materials that are derived from recycled effluent asphalt, wood chip and paper pulp.

BENEFITS

PatchSeal cures within one or two days, depending on the temperature, conditions and relative humidity.

PatchSeal has a thicker consistency than the SpraySeal and BrushSeal products. It is perfect for patching and preparing surfaces.

It can be used to fill gaps of 1/8 inch or larger prior to using other NaturaSeal products.

PatchSeal is environmentally friendly, safe and easy to use.

INSTALLATION



TROWEL APPLIED

APPLICATION

Corrosion Protection

Waterproofing

Roofing

SUSTAINABILITY

NaturaSeal® products support sustainable and energy-efficient building practices, and achieving LEED® certification (LEED® for New Construction).



COVERAGE

Dry Film Thickness (DFT)	SF/Gallon
40 Mils	22

PatchSeal™ PS-700-TG is completely cured in 48 hrs. This curing time may vary depending on temperature and relative humidity.

HEALTH SAFETY AND ENVIRONMENT

PatchSeal™ PS-700-TG does not contain any substance likely to be detrimental to health or to the environment. For further information please refer to relevant Material Safety Data Sheet (MSDS).

INSTALLATION GUIDELINES

- All substrates must be clean and free of debris, dirt and mildew.
- Do not apply when subjected to heavy rain.
- Temperature and humidity conditions will affect drying time.

For further information refer to NaturaSeal installation guides.

COMPONENTS

- BrushSeal HB-600-BR
- NS-200R Geotextile Fabric

SHELF LIFE

Material will have a 12-month shelf life if stored in a dry and properly ventilated space, protected from the elements or any harmful substances.

QUALITY MANAGEMENT

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- Please refer to NaturaSeal for the most up-to-date Technical Data Sheet (TDS).
- NaturaSeal Material Safety Data Sheet (MSDS) are in alignment with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) requirements.

STORAGE AND USE

- PatchSeal™ PS-700-TG cures by evaporation, so it should not be used in temperatures below 4.5°C (40.1°F).
- Apply to surfaces that are free of clean and dry.
- The product should not be used in high humidity, or when there is a high probability of rain.

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PatchSeal™ PS-700-TG

Trowel Applied, Elastomeric Coating

TECHNICAL DATA SHEET PS700062525NNA01

APPROVALS / CERTIFICATE

CE Marking, ISO 9001:2015, ISO 14001:2015, ISO 45001:2018
 CERTIFICATE OF PRODUCT CONFORMITY - DM-DCLD-RD-DP21-2001 (IC)

PRODUCT INFORMATION

Property	Typical Results
Specific Gravity	Approx. 1.0
Odour	None
VOC	Contains no solvents
Colour	Brown to Black
% solids (wt.)	63-68%
Viscosity, Brookfield, sp. #5, 20 rpm	20,000-30,000
pH	10-12

TECHNICAL INFORMATION

Performance (Cured Membrane)	Test Method	Typical Results
Chemical resistance		Resistant to most inorganic solutions. Not recommended for gasoline or other petroleum products. Consult chemical resistance chart for further information.
Biological resistance	ASTM E154, ASTM O412	Passed (90% original value)
Water tightness after impact	CGSB 37-GP-56	Passed (no leakage)
Water tightness		Zero leakage
Tensile strength	ATSM O412, psi	50
Elongation (%)		300
Accelerated weathering	ASTM G 155, O 412	Passed (no deterioration of film)
Tensile strength		Passed (>90% Original Value)
Hardness	Ourometer type OO, ASTM D2246	85-90, 50 Type A
Adhesion to concrete	ASTM C907	765 kPa
Puncture resistance	CGSB 37-GP-56	No perforations

Information contained in this data sheet is up-to-date and correct as at the date of issue. All value represented are nominal and subject to 10% tolerance unless noted otherwise.

We warrant that our products are in conformance with the standards of quality control established by NaturaSeal. As we cannot control or anticipate the conditions under which the products may be used, each user should review the information in specific context of the planned use. NaturaSeal makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE with respect to NaturaSeal Products.

To the maximum extent permitted by law, we will not be responsible for damages of any nature resulting from the use or reliance upon the information contained in this data sheet. Please contact NaturaSeal for applicable warranty programs and general terms and conditions.

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NS-200R™ Geotextile

Needle-Punched Nonwoven Geotextile

TECHNICAL DATA SHEET NS200R062525NNA01

DESCRIPTION

NS-200R™ is a needle-punched nonwoven geotextile made of 100% polypropylene staple fibers. NS-200R™ resists ultraviolet deterioration, rotting, biological degradation, naturally encountered bases and acids. Polypropylene is stable within a pH range of 2 to 13.

NaturaSeal® - PMAE TECHNOLOGY

NaturaSeal unique green PMAE technology created from readily available waste in the oil and forestry industries utilizing raw materials that are derived from the process of recycling waste streams within the asphalt, wood chip, pulp and paper.

BENEFITS

- Manufactured with pure and stable fibers
- Meets AASHTO M288 Class 3 for elongation > 50%
- Excellent physical and hydraulic properties
- Resistant to ultraviolet deterioration
- Withstand rotting and biological Degradation
- Resistant to naturally encountered bases and acids
- Stable within a pH range of 2 to 13

INSTALLATION



ROLL

APPLICATION

- Waterproofing
- Air Barrier
- Roofing
- Gas Protection
- Water Features
- Planted Areas

HEALTH SAFETY AND ENVIRONMENT

The materials does not contain any substance likely to be detrimental to health or to the environmet and complies with generally accepted health and safety requirements. For further information please refer to relevant Material Safety Data Sheet in force.

INSTALLATION GUIDELINES

- Do not apply if rain is imminent within 24 hrs.
- Do not apply to wet, frozen or frosted surfaces.
- Do not expose to UV for more than 30 days.
- For application below 0°C (32°F) please refer to NaturaSeal guidelines for winterized kits.

For further information please refer to the relevant Work Method Statement (WMS).

STORAGE AND USE

The material must be stored in shaded spaces, protected from exposure to direct sunlight, extreme heat and moisture. Material must be kept away from heat and flammable materials. Avoid stacking heavier pallets of materials on top of this product.



SUSTAINABILITY

NaturaSeal® products support sustainable and energy-efficient building practices, and achieving LEED® certification (LEED® for New Construction).



COMPONENTS

NS-200R™ is used as an ancillary in combination with all NaturaSeal Cold-Applied PMAE™ series of products.

COVERAGE

Size	Packaging
11.15 m ²	180 rolls / pallet
16.72 m ²	120 rolls / pallet
33.45 m ²	60 rolls / pallet
66.89 m ²	30 rolls / pallet
125.42 m ²	12 rolls / pallet
175.59 m ²	12 rolls / pallet
209.03 m ²	12 rolls / pallet

QUALITY MANAGEMENT

NaturaSeal is committed to creating unparalleled new technologies, minimizing the negative impacts on the environment and communities. Our manufacturing facilities are independently monitored and certified CE, ISO 9001, ISO 14001 and ISO 45001.

- Please refer to NaturaSeal for the most up-to-date Technical Data Sheet (TDS).
- NaturaSeal Material Safety Data Sheet (MSDS) are in alignment with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) requirements.

SHELF LIFE

Material shall be stored in a dry and properly ventilated space, protected from the elements or any harmful substances. Material shall be adequately protected from environmental impacts to the properties or the performance of the membrane.

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NS-200R™ Geotextile

Needle-Punched Nonwoven Geotextile

TECHNICAL DATA SHEET NS200R062525NNA01

COMPLIANCE

AASHTO M288 OF PRODUCT CONFORMITY - DM-DCLD-RD-DP21-2001 (IC)

PRODUCT INFORMATION

Physical Properties	Typical Results
Reinforcement	Needle-punched nonwoven geotextile
Thickness	0.5 mm
Colour	White, Black

TECHNICAL INFORMATION

Property	ASTM Method	Results
Tensile Strength (N)	D4632	445
Grab Elongation (%)	D4632	50
Tear Resistance (N)	D4533	200
CBR Puncture ¹ (N)	D6241	1320
Permittivity (sec ⁻¹)	D4491	2.0
Water Flow Rate (l/min/m ²)	D4491	6095
Apparent Opening Size (mm)	D4751	0.300
UV Stability (% @ 500h)	D4355	70

1. Burst strength (Mullen ASTM D3786) and Puncture (ASTM D4833) are both replaced by CBR Puncture (ASTMD6241)

*All values are MARV except where specified.

Information contained in this data sheet is up-to-date and correct as at the date of issue. All value represented are nominal and subject to 10% tolerance unless noted otherwise.

1. Allow poured concrete to properly cure (28 days). Peel adhesion of Membrane to concrete is measured at a rate of 50 mm/min at 22°C (71.6°F).

2. Test conducted at 3.25 mm.

We warranty that our products are in conformance with the standards of quality control established by NaturaSeal. As we cannot control or anticipate the conditions under which the products may be used, each user should review the information in specific context of the planned use. NaturaSeal makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE with respect to NaturaSeal Products.

To the maximum extent permitted by law, we will not be responsible for damages of any nature resulting from the use or reliance upon the information contained in this data sheet. Please contact NaturaSeal for applicable warranty programs and general terms and conditions.

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**Section 071416.03 – SpraySeal (NS F-300+GE) Waterproofing
Blindside Vertical Applications - Low Hydrostatic**

PART 1 — GENERAL

1.1 GENERAL REQUIREMENTS

- .1 General Conditions, Supplementary Conditions, Instructions to Bidders and Division One General Requirements shall be read in conjunction with and govern this section.
- .2 This Specification shall be read as a whole by all parties concerned. Each Section may contain more or less than the complete Work of any trade. The Contractor is solely responsible to make clear to the Subcontractors the extent of their Work.

1.2 DESCRIPTION

- .1 Supply labour, materials and equipment to complete the Work as shown on the Drawings and as specified herein to provide a continuous waterproof layer installed on the blindside of concrete foundation walls, including but not limited to:
 - .1 Connections of the blindside membrane to the podium roof deck or underslab membrane.
 - .2 Installation of drainage board and other accessories.
 - .3 Detailing of piping, conduit, duct and similar penetrations.
 - .4 Detailing of expansion joints.

1.3 RELATED SECTIONS

- | | | |
|----|------------------|--------------------|
| .1 | Site Work | Section [02 XX XX] |
| .2 | Concrete | Section [03 XX XX] |
| .3 | Masonry | Section [04 XX XX] |
| .4 | Structural Steel | Section [05 XX XX] |
| .5 | Rough Carpentry | Section [06 XX XX] |
| .6 | Insulation | Section [07 XX XX] |
| .7 | Flashing | Section [07 XX XX] |
| .8 | Sealants | Section [07 XX XX] |
| .9 | Mechanical | Section [15 XX XX] |

1.4 REFERENCE STANDARDS

Liquid applied waterproofing shall meet or exceed the following standards and specifications:

- .1 ASTM D5385/D5385M-14, "Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes".
- .2 CAN/CGSB 37.58-M86 Section 7.2.3, and CSA A123.23-15 Referencing ASTM D5147-14 Section 11 & ASTM D1204, "Dimension Stability"
- .3 CAN/CGSB 37.58-M86 Section 7.2.3, "Water Absorption".
- .4 CAN/CGSB 37.58-M86 and ASTM C836 Section 7.2.5, "Adhesion in Peel".
- .5 CAN/CGSB 37.58-M86 and ASTM C1305 Section 7.2.5, "Crack Bridging".
- .6 CAN/CGSB 37.58-M86 Section 7.2.6 and CSA A123.23-15 referencing ASTM D5147-14 Section 12 "Low Temperature Flexibility, UV Exposure"
- .7 CAN/CGSB 37.58-M86 and ASTM D412 Section 7.2.7, "Recovery Test"
- .8 CAN/CGSB 37.58-M86 Section 7.2.8, "Water Tightness"
- .9 ASTM E96-16, Desiccant and Water Method, "Water Vapour Transmission"
- .10 CSA A123.23-15 Referencing ASTM D5147-14 Section 6, "Thickness"
- .11 CSA A123.23-15 Referencing ASTM D5147-14 Section 7, "Elongation at Peak & Ultimate Elongation".
- .12 CSA A123.23-15 Referencing ASTM D5147-14 Section 16, "Compound Stability"
- .13 CSA A123.23-15 Referencing ASTM D5602-06-14, "Resistance to Puncture"
- .14 ASTM D903-98(2017) "Standard Test Method for Peel or Stripping Strength of Adhesive Bonds"
- .15 ASTM D1434-82(2015) "Standard Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheathing"
- .16 ASTM G20-10-(2015) Standard Test Method for Chemical Resistance of Pipeline Coatings"

1.5 SUBMITTALS

- .1 Prior to commencing the Work submit manufacturer's complete set of standard details for waterproofing systems.
- .2 Submit documentation certifying that the primary waterproofing material complies with CSA A123.23 and CGSB 37.58.

1.6 REFERENCE DRAWINGS

The following drawings from NaturaSeal Standard Drawings Library are applicable to AirSeal for Vertical Walls applications:

- .1 SS.BS.D.01 – Drained Blindside Foundation Wall
- .2 SS.BS.D.02 – Drained Blindside Foundation Wall Pipe Penetration
- .3 SS.BS.D.03 – Drained Blindside Foundation Wall Tie-back
- .4 SS.BS.D.04 – Drained Blindside Foundation Wall Vertical Expansion Joint
- .5 SS.BS.T.01 – Tanked Blindside Foundation Wall Up Turn
- .6 SS.BS.T.02 – Tanked Blindside Foundation Wall Pipe Penetration
- .7 SS.BS.T.03 – Tanked Blindside Foundation Wall Tie-back
- .8 SS.BS.T.04 – Tanked Blindside Foundation Floor
- .9 SS.BS.T.05 – Tanked Blindside Foundation Wall Raker
- .10 SS.BS.T.06 – Tanked Blindside Deep Foundation Wall Up Turn
- .11 SS.BS.T.07 – Tanked Blindside Sheet Piling Foundation Wall

1.7 QUALITY ASSURANCE

- .1 Perform Work in accordance with the printed requirements of the membrane manufacturer and this specification. Advise designer of any discrepancies prior to commencement of the Work.
- .2 The Spray-applied membrane may only be applied by a qualified licensed NaturaSeal Distribution Inc. applicator.
- .3 A pre-installation conference, to include at least the contractor, applicator and architect/engineer should be held one [1] week prior to application to ensure proper substrate and conditions.
- .4 Maintain one copy of manufacturers literature on site throughout the execution of the Work.
- .5 At the beginning of the Work and at all times during the execution of the Work, allow access to site by the waterproofing membrane manufacturer's representative.
- .6 Materials used in this Section, including, primers, mastics and membranes, asphaltic protection boards, composite drainage boards and expansion joint membranes shall be fully compatible and shall be sourced and or produced by one manufacturer.

1.8 COORDINATION

- .1 Ensure continuity of the waterproofing membrane throughout the scope of this section.
- .2 Works shall be so scheduled as to provide a watertight seal at the end of each working day on the areas worked upon during the day.

1.9 DELIVERY, STORAGE AND HANDLING

- .1 Deliver materials to site in original unbroken packages bearing manufacturer's label showing; brand, weight, volume and batch number. Store materials at site in strict compliance with manufacturer's instructions.
- .2 Cold applied elastomeric membrane (part A + B) should be stored in a tractor trailer on site.
- .3 In temperatures below 4.5 degrees Celsius, store the elastomeric membrane (part A + B) in a heated and insulated trailer in conjunction with winter kit provided and approved by NaturaSeal Distribution Inc.
- .4 Store roll materials in original packaging protected from weather.

1.10 JOB CONDITIONS

.1 Environmental Requirements

- .1 No installation work shall be performed during rainy or inclement weather and on frost or wet covered surfaces without prior approval by NaturaSeal. SpraySeal may be applied in light rain and over frost covered surfaces if pre-approved by NaturaSeal Distribution Inc. Solid ice should be removed prior to application. Absorbent substrates should not be fully saturated.
- .2 Ambient temperature shall be greater than -15 degrees C.

.2 Protection

- .1 Protect and mask all adjacent areas from overspray.
- .2 Minimum clearance of 600 mm is required for the application of product. For areas with less than 600 mm clearance, the product may be applied by hand using NaturaSeal PatchSeal & BrushSeal.
- .3 Provide adequate protection of materials and work of this section from damage by weather backfilling operations and other causes.
- .4 Protect work of other trades from damage resulting from work of this section. Make good such damage at own expense to satisfaction of the consultant.

1.11 ALTERNATES

- .1 Submit request for alternates in accordance with Section 01 25 00 – Substitution Procedures.
- .2 Submit requests for alternates a minimum of ten (10) working days prior to bid date

- .3 Alternate submission to include:
 - .1 Evidence that alternate materials meet or exceed performance characteristics of Product requirements as well as documentation from an approved independent testing laboratory certifying the performance of the waterproofing membrane system including drain boards and transition sheets, exceed the requirements of the National Building Code.
 - .2 Ten (10) references clearly indicating the membrane manufacturer has successfully completed projects of similar scope and nature for a minimum of ten (10) years
 - .3 Manufacturer's complete set of details for waterproofing membrane systems showing a continuous plane of water tightness throughout the building envelope.
- .4 Acceptable alternates will be confirmed by addendum. Substitute materials not approved in writing prior to bid date shall not be permitted for use on this project.

1.12 PRODUCT WARRANTY

- .1 NaturaSeal Distribution Inc. hereby warrants that the waterproofing membrane will remain in a watertight condition and will not leak as a result of faulty materials for a period of [five] [ten] years. Scope of warranty shall include material required to return the membrane to a watertight condition.

1.13 INSTALLATION WARRANTY

- .1 NaturaSeal Distribution Inc. will Warrant the work of this Section to remain free from leaks and from defects in materials and workmanship in accordance with the Contract Requirements, for a period of [five] [ten] years, if the Installation Quality Control and Warranty Program is followed. Contact NaturaSeal representative for full program details and how to enroll.
- .2 Installation Quality Control and Warranty Program includes but is not limited to:
 - .1 Pre-Installation Conference: A pre-installation conference shall be held prior to commencement of field installation to establish procedures to maintain required working conditions and to coordinate this work with related and adjacent work. Verify that final waterproofing details comply with waterproofing manufacturer's current installation requirements and recommendations. Any site specific details that are required will be discussed at this meeting. Pre-con meeting attendees should include representatives for the owner, architect, inspection firm, general contractor, waterproofing contractor, concrete contractor, excavating/backfill contractor, and mechanical and electrical contractors if work penetrates the waterproofing.
 - .2 Independent Inspection: Owner shall make all arrangements and payments for an independent inspection service to monitor waterproofing material installation compliance with the project contract documents and manufacturer's published literature and site specific details. Independent

Inspection Firm shall be an approved company participating with the waterproofing manufacturer's Certified Inspection Program. Inspection service shall produce reports and digital photographs documenting each inspection. Reports shall be made available in a timely manner to the Contractor, waterproofing installer, waterproofing material manufacturer, and Architect. Inspections should include substrate examination, beginning of waterproofing installation, periodic intervals, and final inspection prior to concrete or backfill placement against the waterproofing.

- .3 Water Contamination: Waterproofing contractor shall report to NaturaSeal any known contaminants in the soil or groundwater for the site.
- .3 NaturaSeal Distribution Inc. will promptly make good defects within the warranty period without cost to the Owner by methods chosen by NaturaSeal.
- .4 Manufacturer warranty shall be independent from any other warranties made by the Contractor under requirements of the Contract Documents and may run concurrent with the other warranties.

PART 2 — PRODUCTS

2.1 MANUFACTURER

- .1 Waterproofing membrane components and accessories must be obtained as a single-source from the membrane manufacturer / distributor to ensure total system compatibility and integrity.
 - .1 Acceptable Manufacturer: NaturaSeal Distribution Inc.
960 Edgeley Boulevard, Unit 4
Vaughan, Ontario, L4K 4V4
1-855-795-SEAL
www.naturaseal.com

2.2 MATERIALS (Basis of Design)

- .1 Primary waterproofing membrane for temperatures above 4.5 degrees C shall be SpraySeal NS F-300+GE manufactured by NaturaSeal; a two component elastomeric asphalt emulsion, spray applied, compatibility with substrates and transition membranes. Membrane shall have the following physical properties:
 - .1 Elongation: 94%
 - .2 Maximum VOC: 0 g/L
 - .3 Water vapor permeance: 0.02 perms to ASTM E96-16
 - .4 Chemical resistance: Alkalis, calcium chloride, mild acid and salt solutions
- .2 Brush or squeegee applied liquid waterproof membrane for detailing shall be BrushSeal manufactured by NaturaSeal.

- .3 Trowel or caulking tube applied liquid waterproofing membrane for detailing shall be PatchSeal manufactured by NaturaSeal.
- .4 Prefabricated composite drainage board shall be NaturaFLOW 7000; dimpled drainage core and two layers of high strength polypropylene (PP) geotextile. One geotextile (gray) is heat-bonded to dimples, the other geotextile (white) is fully adhered to the backside of the drainage coresides. The drainage core is made from a special high-density polyethylene (HDPE) that provides high impact-and tear-resistance and is unaffected by environmental stress-cracking, having the following physical properties:
 - .1 Water Flow Rate: (3895 l/min/m²)
 - .2 Geocomposite water Flow Rate: 21 gal/min/ft (260 l/min/m)
 - .3 Compressive Strength: 7,300 psf (350 kN/m²),
 - .4 Dimple Height: approx. 2/5" (9 mm)
- .5 Fabric reinforcement shall be NaturaSeal 200R needle-punched nonwoven geotextile made of 100% polypropylene staple fibers capable of allowing the emulsion to bleed through adequately to provide a monolithic reinforced membrane system.

2.3 EQUIPMENT

- .1 The application shall be via a dual component spray gun and HVLP 2000 Spray Machine as approved by NaturaSeal Distribution Inc.
- .2 In cold weather applications (below 4.5 degrees Celsius but not less than -10 degrees Celsius), application shall be via an insulated hose lined with heat tracing cables approved by NaturaSeal Distribution Inc. Drums will be stored in a heated and insulated trailer as specified in Section 1.9 DELIVERY, STORAGE AND HANDLING.

PART 3 — EXECUTION

3.1 INSPECTION

Prior to commencement of work, a thorough inspection of formwork should be carried out to determine or confirm the following:

- .1 All lagging board nails and sharp protrusions to be pounded flush or removed. Check for missing or damaged lagging boards and irregularities and fill/repair using concrete grout.
- .2 Fill or cover any gaps between lagging board exceeding 25mm using concrete grout or plywood.
- .3 All penetrations shall be secured prior to detailing. Multiple penetrations shall be spaced a minimum of 150 mm apart to allow for proper detailing.
- .4 Lagging boards or caisson surface to be free of build-up of snow, ice or water prior to installation of pre-treatment and drainage board.
- .5 Drainage board geotextile surface to be protected prior to waterproofing applied to ensure it remains free of build-up of ice, snow or water which could prevent good bonding of waterproofing materials.

3.2 SUBSTRATE PREPARATION

WOOD LAGGING WITH STEEL PILES

- .1 Ensure all damaged or missing lagging boards are repaired with concrete grout, treated wood or both. Be sure to inspect for any voids/ gaps between the lagging boards exceeding 1" (25mm), which will need to be filled with closed-cell spray foam, grout, rigid insulation board, patching mortar, or treated plywood to ensure a smooth substrate.
- .2 Be sure lagging board nails are pounded flush or removed, ensuring no protrusions from the wall.
- .3 Remove all sharp protrusions, mud, debris, ice or any other materials measuring min. 1" from the flush wall, that may affect the materials performance.

CAISSONS:

- .1 If augured caissons are smooth, NaturaFLOW 7000 Drainage Board & SpraySeal NS-F300+GE can be installed directly on top of the caissons. Be sure to inspect for any voids/ gaps between the lagging boards exceeding 1" (25mm) and all sharp protrusions, mud, debris, ice or any other materials measuring min. 1" from the flush wall, that may affect the materials performance. The area between each pile that is depressed will need to be filled with concrete grout prior to blindside waterproofing application.

- .2 If augured caissons are rough and irregular, NaturaFLOW 7000 Drainage Board & SpraySeal NS-F300+GE can be installed directly on top of the caissons once properly treated. Be sure to inspect for any voids/ gaps between the lagging boards exceeding 1" (25mm) and all sharp protrusions, mud, debris, ice or any other materials measuring min. 1" from the flush wall, that may affect the materials performance. All areas with voids greater than 1-2" must be filled with grout and covered using a min. 3/4" (19.1mm) pressure treated plywood.

SHEET PILES:

- .1 All sharp protrusions must be removed and shaved off.
- .2 Prior to installation of the SpraySeal NS-F300 and any other NaturaSeal accessory products, the sheet pile substrate must be pressure washed and dried min. 24hr prior to application.

SHOTCRETE:

- .1 Remove all sharp protrusions, mud, debris, ice or any other materials measuring min. 1" from the flush wall, that may affect the materials performance.
- .2 Fill or cover any voids measuring 1-2" (2mm-50mm) or larger with concrete grout or plywood.

BEDROCK/ SHALE:

- .1 Remove all sharp protrusions, mud, debris, ice or any other materials measuring min. 1" from the flush wall, that may affect the materials performance.
- .2 Fill or cover any voids measuring 1-2" (2mm-50mm) or larger with concrete grout, plywood, shotcrete, or closed-cell spray foam.

3.3 MEMBRANE APPLICATION

- .1 SpraySeal system shall be supplied and installed by an approved / certified Applicator. The spray gun and associated delivery equipment shall be set up such so that the separate emulsion and catalyst are combined in two even fan patterns with no precipitation of either component. It shall produce a non-liquid coating exhibiting a finely textured surface with the characteristic of uniformly releasing the water carrier contained within the emulsion.
- .2 Soil tie back anchors, structural members and service penetrations shall be pre-treated prior to main application with waterproofing as per detail drawings.
- .3 Install a drainage mat as recommended by NaturaSeal, consisting of a polypropylene core and geotextile fabric on both sides. Drainage mat to be fastened to the formwork using aluminum strapping and non-corrosive fasteners at 600mm - 900mm on center as recommended by NaturaSeal.

- .4 SpraySeal emulsion (part A only) shall be spray applied onto the fabric face of the drainage mat it's fully impregnated with the SpraySeal emulsion part A. The applied emulsion (part A only) should measure 30 mils (0.75 mm) (wet) and 20 mils (0.5 mm) (dry).
- .5 SpraySeal (NS F-300 A+B) shall be spray applied in liquid form and air cured to form a seamless film. The application shall be via a dual component spray gun and delivery equipment as approved by NaturaSeal Industries. The applied membrane should measure 95 mils (2.4 mm) (wet) and 60 mils (1.5 mm) (dry).
- .6 Begin spraying from the lowest point to the highest point in slow even strokes.
- .6 The total thickness of the blindside vertical application should measure 120 mils (3 mm) (wet) and 80 mils (2 mm) (dry).
- .7 SpraySeal (NS F-300 A+B) dries to the touch in one (1) minute @20°C and is completely cured in 48 hrs. This curing time may vary depending on temperature and relative humidity. Typically, an applicator crew can spray 10,000 ft² (930 m²) per day with one crew or 20,000 ft² (1850 m²) with 2 crews using one machine. Concrete pouring can start once SpraySeal is completely cured in 48 hours.
- .8 The Applicator shall avoid overbuilding the Membrane beyond 5 mm without interlaying a layer of reinforcement fabric. Attention must be taken during application process to ensure a consistent and homogeneous membrane. Use a wet film thickness gauge to ensure proper minimum thickness achieved.
- .9 Check SpraySeal membrane for correct thickness in a grid pattern every 10m².
- .10 The nominal standard curing time is 24 hours at 20°C
- .11 Where rebar penetrates through membrane, detail around the rebar with PatchSeal. Let cure for 6 hours or until PatchSeal turns black before covering.

3.4 QUALITY ASSURANCE

- .1 Inspection Method A: Membrane may be checked for coverage with a lightly oiled, needle nose depth gauge, or by taking one (1) cut-out of nine (9) square inches every one thousand (1,000) square feet (93 m²). Record the minimum reading. Mark the test area. Test areas are to be patched over with SpraySeal Membrane to a 80-mil (2 mm) minimum dry thickness, extending a minimum of 25 mm beyond the test perimeter.
- .2 Inspection Method B: Samples to be inspected may be cut from the membrane to a minimum area of two (2) square inches per five hundred (500) square feet (46 m²). Voids left by sampling are to be patched with fiberglass and must overlap the void by a minimum of 50 mm. Spray or trowel-apply SpraySeal Membrane to an 80-mil (2mm) minimum dry thickness, extending at least 75 mm beyond scrim patch.

If the membrane suffers damage it shall be repaired by repeating the application process and overlapping the damaged area that has been trimmed and cleaned.

The Contractor shall provide works access, and site safety practices to avoid endangering the waterproofing Applicator, the passing public, and the building tenants.