VINTEGRA® P20

PRE-APPLIED, WATERPROOFING AND GAS VAPOR PROTECTION MEMBRANE

DESCRIPTION

VINTEGRA® P20 advanced waterproofing and gas resistant membrane utilizes a thick, 7 layer engineered polymeric film consisting of polyethylene (PE) and a EVOH barrier layers integrated with an adhesive coating that bonds to cast-in-place concrete in various applications. The layer doubles as weather-resistant protection during construction. VINTEGRA® P20 membrane is manufactured with two factory-applied butyl adhesive strip selvedge edges, providing an adhesive-to-adhesive bond that seals the membrane overlaps.

In addition to superior waterproofing protection, the VINTEGRA® P20 membrane is specially designed to resist methane and other gas vapors from entering the building through the concrete foundation slab and walls. Lab studies have demonstrated the performance benefits of co-extruded multi-layer EVOH barrier films, like that within the VINTEGRA® P20 membrane. Compared to HDPE membranes, EVOH based barrier films can have a much lower methane gas transmission rate and radon diffusion coefficient.

APPLICATIONS

VINTEGRA® P20 membrane resists water and gas ingress into the building foundation when properly installed. It can be installed in both hydrostatic and non-hydrostatic below-grade pre-applied waterproofing applications. For vapor protection, it can be installed as part of a passive or active gas vapor mitigation system extending across the entire building foundation, including slabs and walls. When installed as a gas mitigation system, it is also recommended to include a sub-slab ventilation system such as GEOVENT™ venting system.

VINTEGRA® P20 membranes are applied either horizontally to smooth prepared concrete, well rolled and compacted earth, or crushed stone substrate, or vertically to permanent soil retention systems for blindside waterproofing. Concrete is then cast directly against the white concrete bond coat side of the membrane. The specially engineered VINTEGRA® P20 membrane layers work together to form a continuous and integral seal bonded to the structure.

FEATURES AND BENEFITS

- Provides a barrier to liquid water, water vapor, and gas
- Fully-adhered membrane overlaps
- Aggressive adhesive bond coating that tenaciously bonds to poured concrete
- Less permeable than typical polyethylene vapor retarders
- No primer required
- Can be applied to support of excavation (SOE) systems allowing maxiumum use of confined project sites.
- Chemically resistant and effective in most types of soils and waters
- Flexible and conformable, less rigid than HDPE-based membranes

INSTALLATION

GENERAL: VINTEGRA® P20 membrane and accessory products should be installed in accordance with the manufacturer's installation guidelines, and in accordance with local building requirements for gas vapor protection. Apply VINTEGRA® P20 membrane to the substrate with the white bond coat side facing installer towards the concrete requiring gas/ waterproofing protection, and the green PE/EVOH film side facing towards the substrate.

Use and install ancillary detailing products in accordance with the manufacturer's installation guidelines and details.

PREPARATORY WORK

UNDER SLAB: Substrate shall be compacted to a minimum Modified Proctor Density of 85% or greater as specified by civil/geotechnical engineer. The finished sub-grade surface shall be well-leveled, uniform, free of debris and standing water or ice. Aggregate sub-grades shall consist of 19 mm (¾") stone or smaller and rolled flat, free from any protruding sharp edges. VINTEGRA® P20 membrane can be installed over a concrete mud slab with a smooth float finish. The substrate should be dry and free from standing water or ice prior to installation.

PROPERTY LINE SHORING WALLS: Install VINTEGRA® P20 membrane only after proper substrate preparation has been completed and is suitable to receive the waterproofing. Remove all projections and fill all voids in the retaining wall larger than 25 mm (1") with grout or compacted soil. AQUADRAIN® drainage composite can be installed over lagging gaps up to 63 mm (2-1/2") to provide a uniform surface to mount the VINTEGRA® P20 membrane. Gaps larger than 63 mm (2-1/2") should be completely filled with grout, wood, extruded polystyrene (25 psi min.), spray foam (20 psi min.), or compacted soil even if AQUADRAIN is installed prior to VINTEGRA® P20 membrane. Fill any void space behind the lagging prior to using plywood or other surface teatment over lagging gaps larger than 63 mm (2-1/2").

JOINT AND SEALING OF MEMBRANE OVERLAPS

STANDARD OVERLAP INSTALLATION: Install VINTEGRA® P20 membrane over the properly prepared substrate with the green liner side down toward the substrate; white adhesive bond coating

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side up facing the installer. VINTEGRA® P20 waterproofing membrane overlaps are sealed using the pre-applied adhesive strips on the selvedge edges of the rolls. VINTEGRA® P20 membrane roll-edges and roll butt-ends should be overlapped minimum 100mm (4”). Taped overlaps with accessory products should also be overlapped minimum 100mm (4”). VINTEGRA® P20 waterproofing membrane overlaps should be dry, clean, and flat without wrinkles or defects prior to removing the selvedge release liners (See Figure 1). Refer to CETCO’s standard installation guidelines for additional information.

LIMITATIONS

VINTEGRA® membranes should not be used in areas where they will be permanently exposed to sunlight or traffic. Do not use VINTEGRA® membranes for horizontal deck construction (e.g. split-slab plaza deck, greenroofs) or to waterproof expansion joints. Cover installed membrane with concrete or backfill within 60 days of installation.

VINTEGRA® waterproofing membranes should only be installed after substrate preparation has been properly completed and is suitable to receive the waterproofing system. VINTEGRA® P20 membrane should not be used with conventional two-sided formwork. Formwork should not be removed until the concrete has achieved minimum 3,000psi (20N/mm^2) compressive strength.

VINTEGRA® membranes and accessory products should not be installed in standing water or over ice. Install VINTEGRA® membranes at temperatures of 25°F (-4°C) or above. VINTEGRA® membranes are designed for in-service temperatures below 130°F (54°C). Consult CETCO for special installation guidelines that apply to shotcrete, sub-slab carton forms, and precast concrete construction.

ACCESSORY PRODUCTS

Install VINTEGRA® P20 membrane using accessory products in strict accordance with the manufacturer’s installation guidelines and details. Primary accessory products include VCB-6 TAPE, CETSEAL, VSA-300 FLASHING, BS-200 MASTIC, and TB-BOOT.

ASSOCIATED SYSTEM PRODUCTS

AQUADRAIN subsurface drainage composite, CXJ Expansion Joints, and WATERSTOP-RX® expanding concrete joint waterstop.

STORAGE

VINTEGRA® P20 membrane rolls should be stored on stable/level ground, with no other material stacked on top. The rolls can be stored off the ground and protected from exposure to precipitation and prolonged direct sunlight.

SIZE AND PACKAGING

Roll Size: 1.2 m x 30 m (4.0 FT x 100 FT)
Roll Weight: 42.6kg (94 lbs)/roll.

IMPORTANT NOTICE: TO COMPLY WITH ISSUANCE OF HYDROSHIELD QUALITY ASSURANCE PROGRAM, CONTACT CETCO FOR VERIFICATION OF SPECIFICATION AND INSTALLATION REQUIREMENTS.

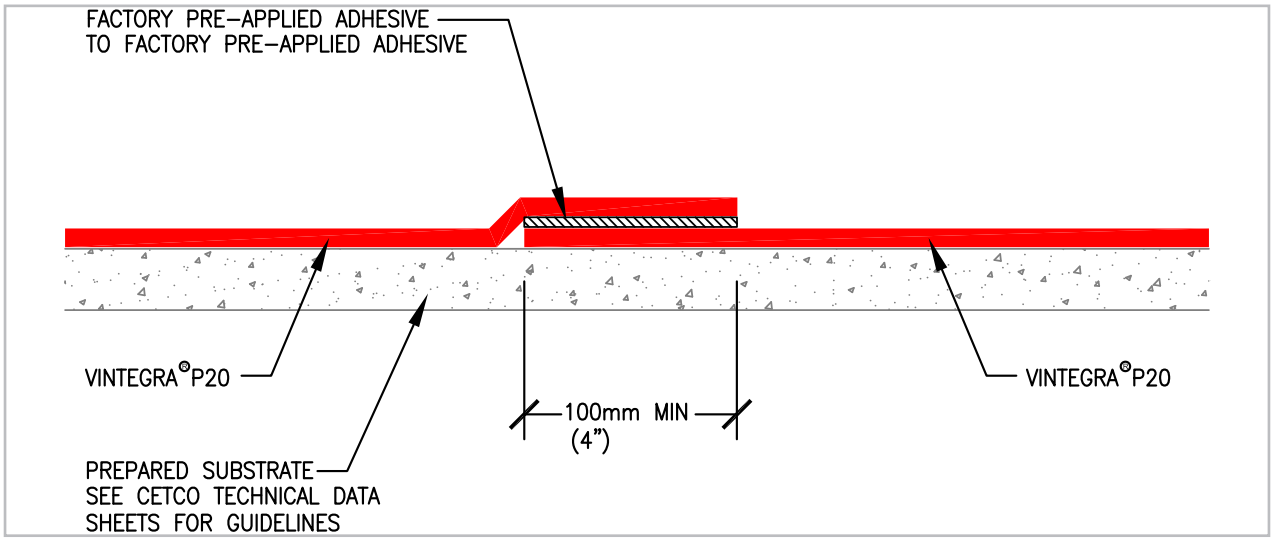

Figure 1

VINTEGRA® P20

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TECHNICAL DATA		
PROPERTY	TEST METHOD	TYPICAL VALUE
PHYSICAL PROPERTIES		
Thickness	ASTM D5199	46 mil (1.1mm)
Tensile Strength	ASTM D412	2100 psi (14.48 MPa)
Elongation	ASTM D412	>500%
Puncture Resistance	ASTM E154	190 lbf (845N)
Adhesion to Concrete	ASTM D903 (mod)	>10 lbs/in (1,751 N/m)
Hydrostatic Pressure Resistance	ASTM D5385 (mod)	100 psi (231 feet)
Lateral Water Migration Resistance	ASTM D5385 (mod)[1]	100 psi (231 feet)
Water Vapor Retarder Classification	ASTM E1745	Class A, B, and C
Water Vapor Transmission Rate	ASTM E96-B	0.004 grains/hr*ft^2
Permeance	ASTM E96-B	0.0098 Perm
Low Temperature Flexibility	ASTM D1970	Unaffected at -20°F (-29°C)
Lap Adhesion	ASTM D1876	>5 lbs/in (875 N/m)
GAS PERMEABILITY OF PE/EVOH 7 LAYER LINER		
Methane Gas Transmission Rate	ASTM D1434	<10 mL/m^2*day*atm
Radon Diffusion Coefficient	K124/02/95	<1.1 x 10^{-13} m^2/s
Perchloroethylene (PCE) Vapor Diffusion Coefficient at 120 mg/l	See Note 2	2 x 10^{-14} m^2/s
Trichloroethylene (TCE) Vapor Diffusion Coefficient at 524 mg/l	See Note 2	9 x 10^{-14} m^2/s
Benzene Vapor Diffusion Coefficient at 450 mg/l	See Note 2	4 x 10^{-14} m^2/s

[1] Lateral water migration resistance is tested by casting concrete against membrane with a hole and subjecting the membrane to hydrostatic pressure with water. The test measures the resistance of lateral water migration between the membrane and the concrete at the hole.

[2] Testing conducted at a constant vapor concentration by maintaining a saturated solution in di-ionized water held in the sealed bottom chamber section of a borosilicate glass testing apparatus.

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