

VIAR WeatherSeal

Description : Viar Weatherseal prevents damage to Avantguard by spreading pressure of screw over wider area and seals it from leaks.
 Material : HDPE with UV protection
 Dimensions : 32mm x 11mm (diameter x height)
 Weight : 2 grams
 Colour : Grey and white
 Maximum pressure : 40kg/cm²
 Recommended Screw : Roofing Screw KNG, #12-24 x 55mm
 Directions : Use one Viar Weatherseal for each screw during installation

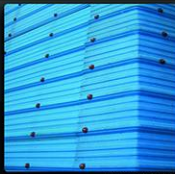


Viar Weatherseal

Penjelasan : Viar Weatherseal mencegah kerusakan pada Avantguard dengan menyebarkan tekanan dari sekrup ke area yang lebih luas dan melindungi dari kebocoran.
 Bahan : HDPE dengan pertahanan UV.
 Dimensi : 32mm x 11mm (diameter x tinggi)
 Berat : 2 gram
 Warna : Abu-abu dan putih
 Tekanan Maksimum : 40kg/cm²
 Sekrup yang disarankan : Sekrup Atap KNG, #12-24 x 55mm
 Petunjuk : Gunakan satu Viar Weatherseal untuk setiap sekrup saat pemasangan.

Nok Avantguard

Item : Type T Nok
 Color : Cream, Blue, green & grey
 Angle : 12.5 degrees
 Dimension : 1.05m x 0.35m x 0.35m
 Weight : 2.75 kg / pcs
 Directions : for roofing angle of between 10 to 17.5 degrees



Nok Avantguard

Produk : Nok Tipe T
 Warna : Krem, Biru, Hijau dan Abu-abu
 Sudut : 12.5 derajat
 Dimensi : 1.05m x 0.35m x 0.35m
 Berat : 2.75 kg / pcs
 Petunjuk : untuk kemiringan atap antara 10 s/d 17.5 derajat.



HOW TO INSTALL / CARA PEMASANGAN

1. STANDING POSITION WHEN INSTALLING / PENGINJAKAN WAKTU PASANG



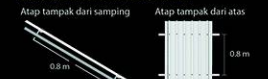
Use appropriate support to reduce deformation of roof during installation.
 Pasikan posisi yang tepat untuk mengurangi kerusakan atap saat pemasangan.

2. VIAR WEATHER SEAL



Weatherseal is a requirement during Avantguard roof installation to spread screw pressure and prevent cracking.
 Weather Seal penting digunakan saat instalasi atap Avantguard untuk mengurangi risk tekanan dan pecah.

3. CNP DISTANCE & SCREW FIXTURE FOR ROOF / JARAK CNP & PEMASANGAN SERUP UNTUK ATAP



Factory recommendation of CNP distance for roof and canopy is 0.8m for 2mm Avantguard 3 Layer and 0.6m for Transite. Recommended screw fixture is as illustrated for maximum effectiveness against high wind.
 Rekomendasi jarak CNP dan pakir untuk atap dan kanopi adalah 0.8m untuk Avantguard 3 Layer 2mm dan 0.6m untuk Transite.
 CNP DISTANCE & SCREW FIXTURE FOR CLADDING / JARAK CNP & PEMASANGAN SERUP UNTUK CLADDING



Factory recommendation of CNP distance for Cladding is 1.2m for 2mm Avantguard 3 Layer. Recommended screw fixture is as illustrated for maximum effectiveness against high wind. Please note difference compared to roofing installation.
 Rekomendasi jarak CNP dan pakir untuk cladding adalah 1.2m untuk Avantguard 3 Layer 2mm. Pemasangan sekrup yang benar sesuai dengan ilustrasi untuk efisiensi maksimum melawan angin kencang. Perhatikan perbedaannya jika dibandingkan dengan instalasi atap.

CHEMICAL RESISTANCE / KETAHANAN KIMIA

Unplasticized PVC Chemical Resistance Table. The resistance of unplasticized PVC to a wide range of chemicals is listed in the following table:

CONCENTRATIONS	80/20C	100/0C	CHEMICALS	80/20C	100/0C
Sulfuric Acid (20%)	U	U	Chlorine Gas (4%)	SA	E
Nitric Acid (20%)	U	U	Chlorine Gas (10%)	SA	E
Hydrochloric Acid (20%)	U	U	Chlorine Acid (10%)	SA	E
Aluminum Hydroxide	U	U	Chlorine Acid (20%)	SA	E
Ammonium Hydroxide	U	U	Chlorine Acid (25%)	SA	E
Ammonium Nitrate	U	U	Sulfur (5%)	SA	E
Ammonium Phosphate	U	U	Hydrochloric Acid (10%)	SA	E
Ammonium Sulfate	U	U	Hydrochloric Acid (20%)	SA	E
Acetic Hydrochloric (10%) Ac	U	U	Hydrochloric Acid (25%)	SA	E
Hydrochloric Acid (10%)	U	U	Formic Acid (10%)	SA	E
Hydrochloric Acid (20%)	U	U	Formic Acid (20%)	SA	E
Hydrochloric Acid (25%)	U	U	Formic Acid (25%)	SA	E
Hydrochloric Acid (30%)	U	U	Formic Acid (30%)	SA	E
Hydrochloric Acid (40%)	U	U	Formic Acid (40%)	SA	E
Hydrochloric Acid (50%)	U	U	Formic Acid (50%)	SA	E
Hydrochloric Acid (60%)	U	U	Formic Acid (60%)	SA	E
Hydrochloric Acid (70%)	U	U	Formic Acid (70%)	SA	E
Hydrochloric Acid (80%)	U	U	Formic Acid (80%)	SA	E
Hydrochloric Acid (90%)	U	U	Formic Acid (90%)	SA	E
Hydrochloric Acid (100%)	U	U	Formic Acid (100%)	SA	E
Hydrochloric Acid (110%)	U	U	Formic Acid (110%)	SA	E
Hydrochloric Acid (120%)	U	U	Formic Acid (120%)	SA	E
Hydrochloric Acid (130%)	U	U	Formic Acid (130%)	SA	E
Hydrochloric Acid (140%)	U	U	Formic Acid (140%)	SA	E
Hydrochloric Acid (150%)	U	U	Formic Acid (150%)	SA	E
Hydrochloric Acid (160%)	U	U	Formic Acid (160%)	SA	E
Hydrochloric Acid (170%)	U	U	Formic Acid (170%)	SA	E
Hydrochloric Acid (180%)	U	U	Formic Acid (180%)	SA	E
Hydrochloric Acid (190%)	U	U	Formic Acid (190%)	SA	E
Hydrochloric Acid (200%)	U	U	Formic Acid (200%)	SA	E

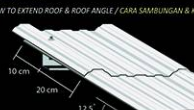
Explanation : E - Excellent to satisfactory SA - Some attack or absorption U - Unsatisfactory

5. HOW TO OVERLAP / CARA OVERLAP



Side with a longer extension should be placed on top during overlapping of Avantguard roofing.
 Sisi dengan ekstensi yang lebih panjang diletakkan di atas saat overlapping Avantguard roofing.

6. HOW TO EXTEND ROOF & ROOF ANGLE / CARA SAMBUNGAN & KEMIRINGAN ATAP



Roof extension should be as per illustrated taking note of angle of roof and overlapping distance.
 Perancangan atap harus sesuai dengan gambar, menyudutkan dengan sudut atap dan jarak overlapping.

7. HOW TO CUT / CARA PEMOTONGAN



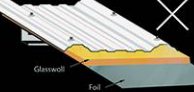
For cutting, using machine grinders or manual metal cutting saws. Untuk memotong bisa menggunakan alat produksi metal cutting saws.

8. HOW TO CLEAN / CARA PEMBERSIHAN



Liquid dish washing detergent is effective for removing grease and dirt from Avantguard.
 Deterjen Cair pencuci piring efektif untuk menghilangkan minyak dan debu dari Avantguard.

9. DO NOT USE INSULATION / DILARANG MENGGUNAKAN INSULASI



Do not install additional insulation such as glass wool or aluminum foil.
 Dilarang menggunakan insulasi tambahan seperti Glasswool atau Aluminium foil sebagai penahan panas.

Product warranty is void if installer does not adhere to above illustrated installation guide.
 Garansi produk tidak berlaku jika pemasangan tidak mematuhi panduan instalasi yang diilustrasikan diatas.

Product by: PT. PRATAMA PLASTINDO UTAMA

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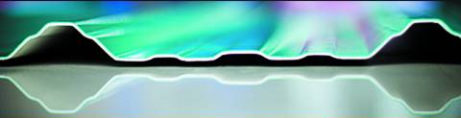
3 LAYER COMPOSITE & TRANSLITE UPVC ROOF



WORLD'S MOST PREMIUM UPVC ROOF



www.avantguard.co.id
 www.atapupvc.com



ADVANTAGES / KEUNGGULAN

- UV Protection
Proteksi Sinar UV
- Long Lasting Color
Warna yang Tahan Lama
- Sound Insulation
Pendidiri Suara
- Fireproof
Tahan api
- Flexible
Fleksibel
- Mold Resistant
Anti jamur
- Anti Corrosion
Anti karat
- Strong & Light
kuat & Ringan
- Stay Cool
Tetap Sejuk
- 100% Recyclable
Dapat di daur ulang

ABOUT US / PENDAHULUAN

Avantguard is a next generation roofing solution developed for residential and industrial needs. Using UPVC base material and a range of supporting additives, Avantguard has 3 times more effective protection compared to any other commercial roofing due to its 3 distinct benefitting layers.

Avantguard adalah solusi atap generasi baru untuk kebutuhan perumahan dan industri. Menggunakan material berbahan dasar UPVC, Avantguard melindungi 3x lebih efektif dibandingkan atap komersial lainnya karena Avantguard memiliki 3 lapisan khusus yang saling terhubung.

Avantguard is inert and has high resistance against many acids, bases and salts making it a highly suitable roofing and cladding material for coastal areas, food and beverage industry, salt factories, cold storage, pulp and paper industry, power plants, fertilizer factories and much more.

Avantguard memiliki ketahanan tinggi terhadap berbagai jenis asam, basa dan garam, membuatnya sangat cocok untuk atap & cladding untuk area pinggir pantai, industri makanan & minuman, pabrik garam, pabrik pendingin, industri kertas, PLTU, industri pupuk dan lain - lain.

Avantguard is also flexible therefore can be bent to the shape of dome roofs without rolling.

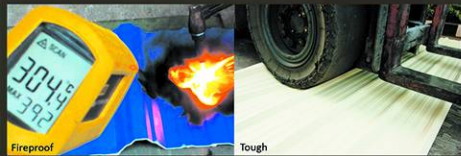
Avantguard juga fleksibel dan bisa di lengkungkan tanpa perlu di roll.

As a residential canopy, unlike polycarbonates & fibreglass, Avantguard does not disintegrate in our high UV tropical environment, does not accumulate mould and is much quieter during the rainy seasons.

Sebagai kanopi untuk perumahan, Avantguard tidak akan terokas terurai dengan tingkat UV tinggi dan tidak juga menimbulkan lumut dan lebih meredam suara pada saat musim hujan dibanding bahan polycarbonate.

Most importantly, Avantguard is made from non toxic material and is 100% recyclable.

Yang paling penting, Avantguard terbuat dari material yang tidak beracun dan bisa diaur ulang 100%



EXPLANATION / PENJELASAN

AVANTGUARD Layer / Lapisan AVANTGUARD

1. The first layer of Avantguard protects the roof from oxidizing, damage from the intense UV exposure, dust and static accumulation, and also formation of mould.

1. Lapisan pertama Avantguard melindungi atap dari oksidasi, kerusakan karena ekspos sinar UV, akumulasi statis & debu serta pembentukan lumut.

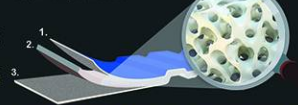
2. The second layer is a specialized foamed UPVC that reduces thermal conductivity and provide noise insulation. This reduces echo within the building and softens heavy rain. Being an insulator, Avantguard roofing does not require separate thermal insulation thus reducing overall installation cost and time. Removing the need for insulation also reduces bacterial accumulation usually in insulation wool for the food industry due to condensation which also hastens the corrosion of metal roofs.

2. Lapisan kedua adalah foamed UPVC khusus yang membantu mengurangi konduktivitas panas dan menyediakan insulasi suara yang mengurangi gema didalam bangunan dan sewaktu hujan lebat. Sebagai insulator, atap Avantguard tidak memerlukan insulasi thermal tambahan, sehingga mengurangi biaya dan waktu. Hal ini juga mengurangi akumulasi bakteri terutama di wol insulasi pada industri makanan yang dikarenakan kondensasi, yang juga mempercepat karosi atap dari besi.

3. The third layer acts as a composite laminate that helps strengthen the material further.

3. Lapisan ke tiga bertindak sebagai laminasi komposit yang membantu memperkuat material lebih baik lagi.

3 layer Avantguard illustration



COMPARATIVE TABLE / TABEL PERBANDINGAN

Comparison Table	AVANTGUARD	Zincalume	Fiberglass	Asbes
Strength	Good	Average	Average	Average
Thermal Insulation	Excellent	Poor	Excellent	Poor
Sound Insulation	Excellent	Poor	Average	Average
Corrosion resistance	Excellent	Poor	Poor	Good
Fire resistance	Good	Good	Poor	Good
Anti-UV properties	Excellent	Good	Poor	Good
Colour Fastness	Excellent	Average	Good	Poor
Installation Ease	Good	Good	Average	Poor
Curve Roof	Excellent	Require rolling	Poor	Poor
Strength & Weight	Light	Heavy	Light	Heavy
Recyclability	100%	100%	Not recyclable	Not recyclable
Shape retention	Excellent	Excellent	Poor	Average
Toxicity	Non toxic	Non toxic	Mildly toxic	Highly Toxic

SPECIFICATION / DATA SPESIFIKASI



Standard length	Panjang standar	1m - 12m
Standard width	Lebar Standar	1130 mm
Effective width	Efektif lebar	1050 mm
Height	Tinggi gelombang	25 mm
Thickness	Tebal	2 mm (2.5 mm special request, minimum order)
Weight	Berat	3.2 kg / m ²
CNP support distance	Jarak Gardeng CNP	800 mm
Curve Radius	Radius lekukan	R 4
3 Layer Colour	Warna 3 Layer	Blue, Green, Cream / Grey / Biru, Hijau, Krem, Abu-abu.
Roof Angle	Kemiringan atap	≥ 12°
Guarantee	Garansi	10 Years (Terms & Conditions Apply) / 10 Tahun (Syarat & Ketentuan Berlaku)



Standard length	Panjang standar	1m - 12m
Standard width	Lebar Standar	1130 mm
Effective width	Efektif lebar	1050 mm
Height	Tinggi gelombang	25 mm
Thickness	Tebal	1.5 mm
Weight	Berat	2.5 kg / m ²
CNP support distance	Jarak Gardeng CNP	600 mm
Curve Radius	Radius lekukan	R 5
Translite Colour	Warna Translite	Clear White (Putih Clear Nuansa Biru) - Transparency / tembus cahaya 90 %
Roof Angle	Kemiringan atap	≥ 12°
Guarantee	Garansi	5 Years (Terms & Conditions Apply) / 5 Tahun (Syarat & Ketentuan Berlaku)



TRANSLITE INFO :

Translite is a single layer used as skylight in conjunction with Avantguard 3 layers. From hi-grade transparent roofing UPVC material and enhanced with reinforcing additives, Translite will last up to 10 times longer than readily available fiberglass and polycarbonate transparent roofing. Benefits include reduced heat transmission, sound proof, mould resistant and anti cracking.

INFO TRANSLITE :

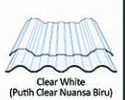
Translite adalah lapisan tunggal yang digunakan untuk "skylight" jika digabungkan dengan Avantguard 3 layers. terbuat dari material Hi-grade UPVC dan diperkuat dengan aditif tambahan, Translite mampu bertahan 10x lebih lama dibanding atap fiberglass / polycarbonate transparan yang sudah ada. Keunggulannya termasuk mengurangi transmisi panas, kedap suara, anti lumut dan tahan retak.

PIGMENTED COLOUR / WARNA PIGMENTASI

3 LAYER COMPOSITE



TRANSLITE



GENERAL PROPERTIES / SIFAT-SIFAT UMUM

Density	1390 kg/m ³
Young's modulus (E)	2900-3300 MPa
Tensile strength(σ)	50-80 MPa Elongation at break 20-40%
Notch test	2-5 kJ/m ²
Glass temperature	82 °C
Melting point	100-260 °C
Heat transfer coefficient (λ)	0.15 W/(m.K)
Effective heat of combustion	17.95 MJ/kg
Linear expansion coefficient (α)	8.10-5 /K
Specific heat (c)	0.9 kJ/(kg.K)
Water absorption (ASTM)	0.04-0.4

Chemical Resistance Test / Uji Ketahanan Kimia

