



avantguard®
ROOFING REINVENTED

3 LAYER COMPOSITE & TRANSLITE UPVC ROOF



WORLD'S MOST PREMIUM UPVC ROOF



REDUCE ENERGY COST.
DURABLE AND REDUCE WASTE.

PROUD TO BE GREEN FOR INDONESIA

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

ADVANTAGES / KEUNGGULAN

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 benefiting layers.

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

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.

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

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 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 juga fleksibel dan bisa di lengkungkan tanpa perlu di roll.

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

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



UV Protection
Proteksi Sinar UV



Long Lasting Color
Warna yang Tahan Lama



Sound Insulation
Insulasi Suara



Fireproof
Tahan api



Flexible
Fleksibel



Mold Resistant
Anti jamur



Anti Corrosion
Anti korosi



Strong & Light
Kuat & Ringan



Stay Cool
Tetap Sejuk



100% Recyclable
Dapat di daur ulang



Fireproof



Tough

Certified by :



Enhanced With :



Brilliant Colours

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.

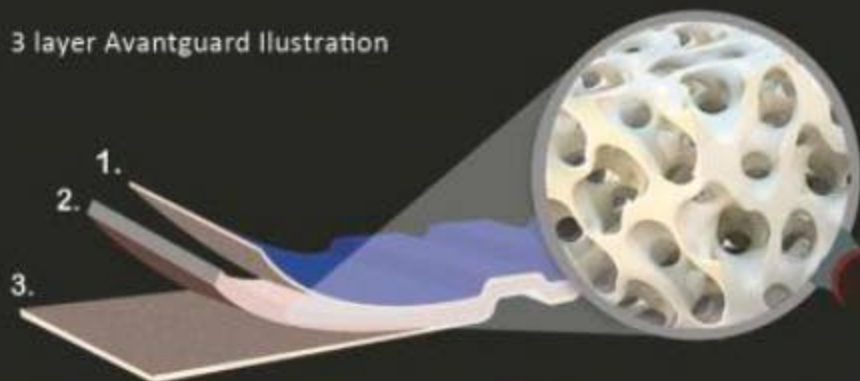
2. The second layer is a specialized foamed UPVC that reduces thermal conductivity and provide noise insulation. This reduces echo within the building and softens heavy rain. Being an insulator, Avantguard roofing does not require separate thermal insulation thus reducing overall installation cost and 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 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 korosi 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



PERUMAHAN DPR - PULO GEBANG



TEMPAT PENYEMBAHAN ST. MARIA - BOGOR



HOLY FUNERAL HOME (RUMAH DUKA) - ATMA JAYA PLUIT



KOSTRAD - CILODONG



KFC - JATINEGARA



SMA LABSCHOOL - RAWAMANGUN

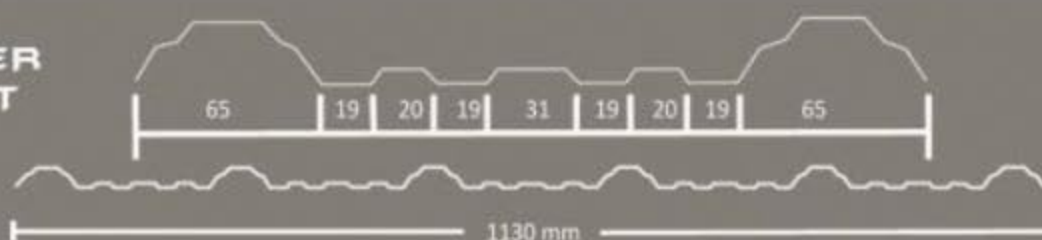
COMPARATIVE TABLE / TABEL PERBANDINGAN

Comparison Table	AVANTGUARD	Zincalume	Fiberglass	Asbes
Strength	Good	Excellent	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 Roofs	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



**3 LAYER
TYPE T**



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



**TRANSLITE
TYPE T**



Standard length	<i>Panjang standar</i>	: 1m - 12m
Standard width	<i>Lebar Standar</i>	: 1130 mm
Effective width	<i>Efektif lebar</i>	: 1050 mm
Height	<i>Tinggi gelombang</i>	: 25 mm
Thickness	<i>Tebal</i>	: 1,5 mm
Weight	<i>Berat</i>	: 2,5 kg / m
CNP support distance	<i>Jarak Gordeng CNP</i>	: 600 mm
Curve Radius	<i>Radius lekukan</i>	: R 5
Translite Colour	<i>Warna Translite</i>	: Clear White (Putih Clear Nuansa Biru) - Transparency / <i>tembus cahaya 90 %</i>
Roof Angle	<i>Kemiringan atap</i>	: $\geq 12^\circ$
Guarantee	<i>Garansi</i>	: 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 transparant 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



Grey
(Abu-abu)

Cream
(Krem)

Green
(Hijau)

Blue
(Biru)

Clear White
(Putih Clear
Nuansa Biru)

GENERAL PROPERTIES / SPESIFIKASI UMUM

Density	1390 kg/m ³
Young's modulus (E)	2900-3300 MPa
Tensile strength(σ_t)	50-80 MPa Elongation at break 20-40%
Notch test	2-5 kJ/m ²
Glass temperature	82 °C
Melting point	100-260 °C; Vicat B 85 °C
Heat transfer coefficient (λ)	0.16 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



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/cm ²
Recommended Screw	: Roofing Screw KNG, #12-24 x 55mm
Directions	: Use one Viar Weatherseal for each screw during installation



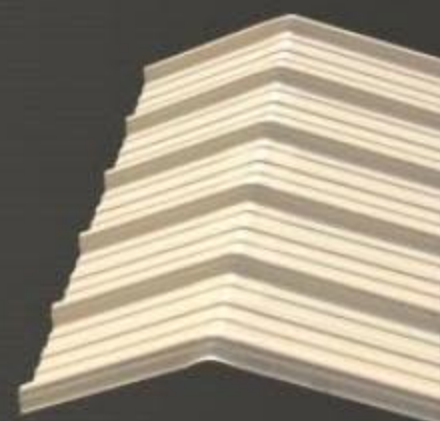
Viar Weatherseal

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

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

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



Nok Avantguard



PT. JINDOMAGURO - MUARA BARU (PELABUHAN PERIKANAN).



PT. CHEETAM GARAM - CILEGON (PRODUSEN GARAM)



PT. KARYA BAHANA UNIGAM (PABRIK SPAREPART OTOMOTIF NHK).



PT. INDOKONVERTA - CILEUNGSI (INDUSTRI KEMASAN PRODUK).



PT. SAMPURNA JAYA - CILEUNGSI (INDUSTRI TEKSTILE).



PT. SINAR SYNO KIMIA - CIKARANG (INDUSTRI KIMIA).

HOW TO INSTALL / CARA PEMASANGAN

1. STANDING POSITION WHEN INSTALLING / PENGINJAKAN WAKTU PASANG



Use appropriate support to reduce deformation of roof during Installation
Pastikan 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 titik tekanan dan pecah

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

Atap tampak dari samping

Atap tampak dari atas

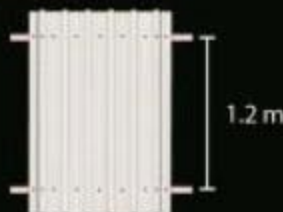


Factory recommendation of CNP distance for roof and canopy is 0.8m for 2 mm Avantguard 3 Layer and 0.6m for Translite. Recommended screw fixture is as illustrated for maximum effectiveness against high wind.

Rekomendasi jarak CNP dari pabrik untuk atap dan kanopi adalah 0.8m untuk Avantguard 3 Layer 2mm dan 0.6m untuk Translite

4. CNP DISTANCE & SCREW FIXTURE FOR CLADDING / JARAK CNP & PEMASANGAN SKRUP UNTUK CLADDING

Tampak cladding dari depan



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 dari pabrik untuk cladding adalah 1.2m untuk Avantguard 3 Layer 2mm. Pemasangan sekrup yang benar sesuai dengan ilustrasi untuk efektivitas 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 :

CHEMICAL	68F/20C	140F/60C	CHEMICAL	68F/20C	140F/60C
Acetic Acid (20%)	E	E	Chlorine Gas (wet)	SA	E
Acetone	U	U	Chlorine (liquid)	m	E
Alcohol (40%)	E	SA	Chlorine Acid 10 %	m	E
Aluminium Fluoride	E	E	Chlorine Acid 50 %	m	E
Aluminium Sulphate	E	E	Cresylic Acid 50%	m	E
Ammonia 0.88 5G a.q. soln.	E	E	Crude Oil	m	E
Ammonium Carbonate	E	E	Disol Oil - Derv	m	SA
Ammonium Nitrate	E	E	Detergents (normal dilutions)	m	E
Ammonium Phosphate - neutral	E	E	Ethylene Glycol	m	E
Ammonium Sulphate	E	E	Fatty Acids	m	E
Aniline Hydrochloride (40%) Aq	U	E	Fatty Acids	m	E
Barium Carbonate	E	E	Ferric Nitrate	m	E
Barium Hydroxide	E	E	Ferrous Chloride	m	E
Beer	E	E	Fish Solubles	m	E
Benzene or Benzol	m	E	Formaldehyde 40%	m	E
Brine	m	E	Fruit Juice, Pulp	m	E
Butanol (Primary Butyl Alcohol)	m	E	Gallic Acid	m	E
Calcium Carbonate	m	E	Gas - Natural	m	E
Calcium Chloride	m	E	Hydrochloric Acid	m	E
Calcium Hypochlorite	m	E	Hydrogen Peroxide 50%	m	E
Castor Oil	m	E	Hydrochlorous Acid	m	E
Chloric Acid (20%)	m	E			

Explanation E: Excellent to satisfactory

SA: Some attack or absorption

U: Unsatisfactory

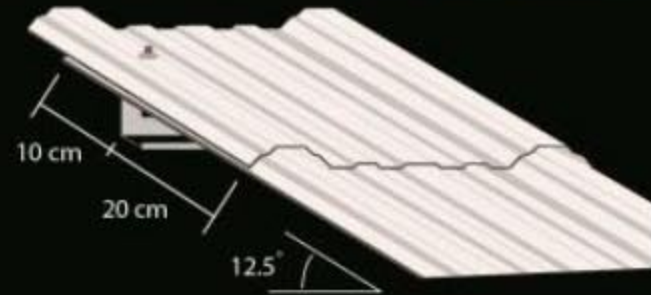
5. HOW TO OVERLAP / CARA OVERLAP



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.

Perpanjangan atap harus sesuai dengan gambar, menyesuaikan 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 gerinda mesin/gergaji besi.

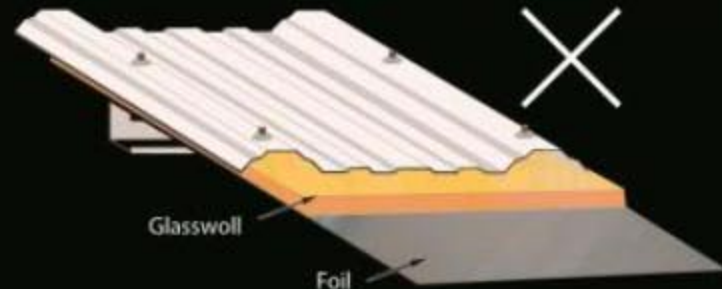
8. HOW TO CLEAN / CARA PEMBERSIHAN



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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