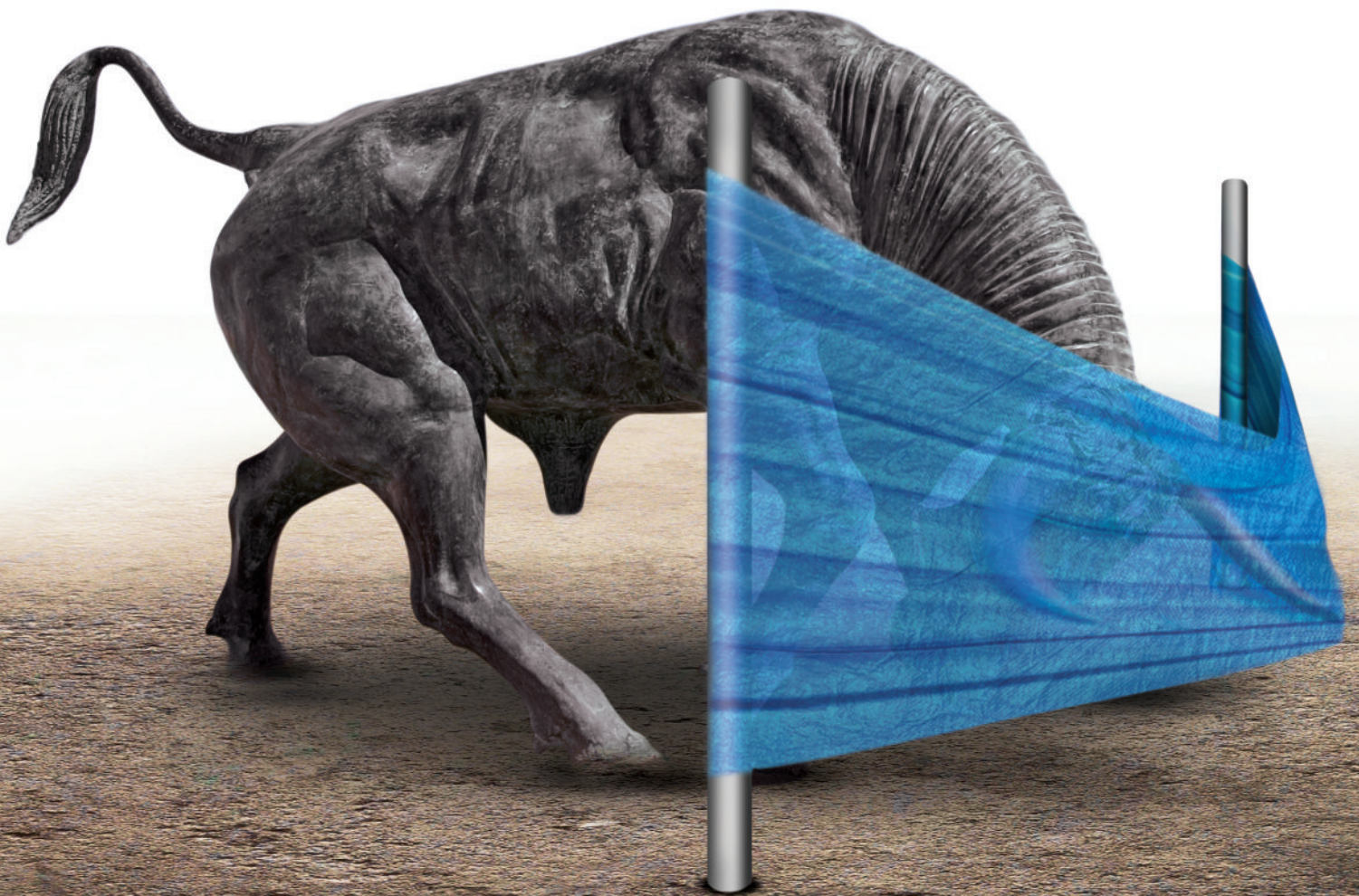


Multi layer multi axis Oriented X cross laminated film (MOX)



MOX film - Stronger than the Strongest



Unbeatable strength. Unmatched durability.



Making a mark since 25 years

Time Technoplast Ltd., is a multinational company engaged in the manufacture of innovative Polymer products based on technology. Its business segments such as Industrial Packaging, Infrastructure, Lifestyle, Auto Components, Material Handling Solutions, Composite Cylinders, Healthcare Products caters to discerning customers.

The company has a strong presence in Asia & MENA regions with factory locations spread across India, Bahrain, Egypt, UAE, Indonesia, Malaysia, Taiwan, Thailand and Vietnam with state-of-the-art manufacturing plants (47) in these 9 countries.

The company has close proximity to serving the markets. Commitment to excellence and constant innovations has helped the company to experience good growth, CAGR of 26%.

AN INTRODUCTION TO TECHPAULIN

Time Technoplast Ltd., has revolutionized industry and excited customers with constant innovative products and now again it endeavours to redefine the plastic flexible segment with Techpaulin, a Multi layer multi axis Oriented X cross laminated film (MOX).

It comprises of biaxial oriented layers of plastic film bonded to one another in the machine operating direction, transverse and angular axis all together in 16 directions bonded by a cold roll technique.



Cross Laminated



Multi Layer



Multi Axis Oriented

Techpaulin has exceptional puncture resistant & barrier property, cutting-edge manufacturing technology delivers a superior product that does not peel off, shred, crack or cause leak easily. Extremely light weight but stronger. High UV property delivers better crack & weather resistance.

It is odourless, non toxic, recyclable, food grade and can be used for protecting, covering food grade items as well.

TECHPAULIN – A SUPERIOR PRODUCT

Conventional Tarpaulin	Techpaulin
<ul style="list-style-type: none">• Made of woven polyethylene fabric laminated with poly film• Due to inherent product manufacturing process, product gets delaminated, disoriented very fast with loose shreds and ends• Lamination develops crack and tarpaulin shreds, poor weathering resistance• Inherent product structure makes it heavy• Stitching is done for side reinforcement, but has poor life as stitch wears off easily• Poor water resistance & poor barrier property• On exposure to sunlight conventional tarpaulin weakens rapidly developing cracks and shreds• Eyelets provided on reinforced sides weakens tarpaulin as it tears off easily• Surface does not allow excellent printing• Large variation in GSM / thickness• Other conventional Tarpaulin such as PVC Tarpaulin are heavy, not moisture resistant and difficult to handle• Develops bad odour when in contact with moisture. Toxic and non food grade• Post service waste generated is not eco-friendly	<ul style="list-style-type: none">• Multilayer multi axis Oriented X cross laminated film• Superior technology enables film to have excellent lamination and weathering resistance• Excellent weathering resistance. Does not shred or crack easily. Its 5 times more durable• As the film has got exceptional strength, it is much lighter in weight• Side reinforcement are done by ultrasonic welding technology, excellent weld property• Excellent water barrier property• Good weathering resistance even on exposure to sunlight• Strong and rigid eyelets are provided on side edges, does not weakens Techpaulin• Surface allows good printing and marking branding possible• Excellent technology allows very fine control & tolerance of GSM / thickness• Techpaulin is light weight and easy to handle• Odourless and non-toxic• Post service life, product is 100% recyclable, environmentally sustainable and eco friendly

UNIQUE FEATURES THAT GIVE TECHPAULIN THE DEFINITIVE EDGE



1. Strong

Techpaulin is an exceptionally strong co-extruded cross laminated film manufactured through an innovative process. The higher performance with a lighter gauge offers significant savings in material cost.



2. Tear / Puncture Resistant

Special manufacturing process provides Techpaulin good tensile strength with strong balanced tear resistance in multi direction. Accidental puncture or tear does not propagate through the film.



3. 100% Waterproof

Techpaulin has good water barrier property, moisture resistance and retains 100% strength even when wet. Staple / stitch free joints make it 100% waterproof. Techpaulin is rot resistant.



4. Easy to Use

Techpaulin can be converted by various processes such as sealing / welding, gluing, laminating, cutting for range of industrial and consumer applications. Strong and tear resistant ends could be easily formed by cutting folding; welding and eyelets can be additionally provided for better handling. Being light weight, Techpaulin is easy to handle.



5. Durable

Superior technology & exceptional properties makes Techpaulin a long lasting & a durable end product.



6. Weathering Resistant

Techpaulin has high resistance to varying weather conditions. Even with sustained exposure to sunlight, wind, water, rain or snow, Techpaulin continues to have high resistance against crack, peeling, de-lamination, chipping, etc. Offers good weather resistance.



7. Chemical Resistant

Inert to most chemicals including acid, alkalis, oil, stain, etc. Good barrier property allows usage in various applications requiring liquid and gas barrier properties.



8. UV Resistant

Techpaulin has the ability to absorb UV radiation and dissipate the energy as low level heat, thus withstanding the pressure to crack or disintegrate under continuous exposure to sunlight.

AN ENTIRE RANGE OF AGRICULTURAL AND INDUSTRIAL APPLICATIONS

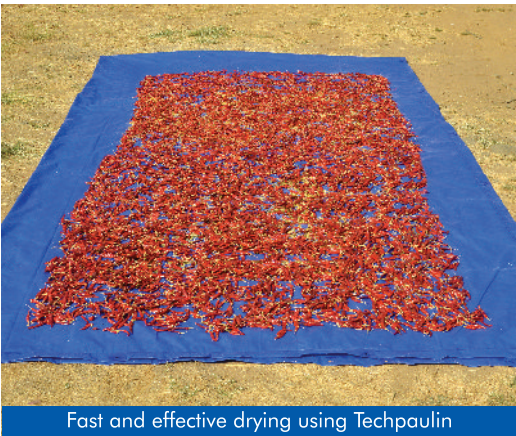
Techpaulin is reliable, matches high quality standards and finds application in an extensive range of agricultural and industrial applications.

AGRICULTURAL

Techpaulin has wide use for agricultural applications. Available in variety of sizes and can also be made available in customized sizes.

1. Drying of agriculture products such as

- Spices
- Chillies
- Areca nuts
- Coconut
- Turmeric
- Grapes
- Rubberized items, etc.



Properties

- High UV resistant
- High moisture barrier even when laid on moist / wet ground
- Does not de-laminate
- Does not chip or crack
- Long life
- Resistant to corrosion, dew, low temperature and weathering

Suggested Colours:

- Golden Yellow ■ Royal Blue
■ Chilli Red ■ Natural

2. Silage and grain covers

Silage cover protects goods from air and water intrusion and reduces loss of moisture and retains freshness.

- Maximizes freshness
- Preserves nutritional values
- Prevents ingress of excess water / air
- Exceptional tear resistance and seam resistance
- Multiple sheets joined by high tech welding (no stitching, no holes)



Grain covers protect from rain, dew & sunlight



Covers fresh harvest, protects freshness

Suggested Colours:

- Arctic White
- Golden Yellow
- Royal Blue
- Natural

Properties

- Good weathering, water and air barrier
- Good UV resistance
- Light weight and easy to use
- Chemical resistance

3. Fumigation barriers

Techpaulin can also be used as a containment cover to maximize and economize fumigation process.

- Good barrier property prevents easy escape of fumigated gases and provides good impact
- Process is repeatable and reliable
- Prevents loss of efficacy
- High fuming and retention rates
- Lowers VOC emission into the atmosphere
- Prevents smell & odour dispersing
- Optimal UV resistance

Properties

- Good barrier property
- UV resistance
- Easy to lay and cover
- Chemical resistance



Techpaulin Fumigation Cover

Suggested Colours:

- Golden Yellow
- Royal Blue

4. Poultry Curtains

Techpaulin is used as poultry curtains to protect chickens from extreme weather, heat, cold or rain.

- Appropriate indoor environment protects chickens from harsh, cold and wind
- Increases rearing capacity under single roof
- Reduces casualty
- Corrosion resistant
- Techpaulin withstands acidic chicken waste
- Rot proof
- Better storage environment
- Stress-free healthy environment, good output

Properties

- 100% weather proof
- Good chemical resistance
- Improved strength and durable
- Light weight
- UV resistant



Techpaulin - Poultry Curtains

Suggested Colours:

- Forest Green ■ Arctic White
- Golden Yellow ■ Royal Blue

5. Vermibeds

Vermi composting is gaining high popularity and rapidly growing agriculture segment. It is a process of managing worms to convert organic matter / waste to rich manure in a short period of time. To facilitate vermi composting, a suitable ambient temperature has to be maintained and has to avoid heat build-up as the earthworms are sensitive to heat. Use of Techpaulin for vermibeds presents immense advantages.



Techpaulin - Vermibed

Suggested Colours:

- Military Green ■ Mud Brown

- Retains moisture
- Flexible and economical
- Special design features for stable vermibed
- Higher quality ventilation nets for longer life
- Ready to install vermibed set available
- Special advice and help can be available from the company

Properties

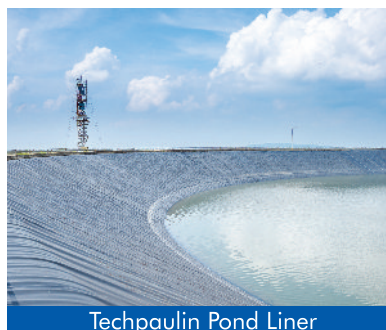
- Very high strength values
- UV stabilization for a long outdoor exposure
- Puncture resistance
- 100% waterproof
- Chemical resistance

POND LINER

Due to vagaries of rainfall, Government is encouraging and supporting water conservation and storage. One of the most popular methods is by creating artificial pond / storage reservoir. Techpaulin offers excellent solution for pond lining.

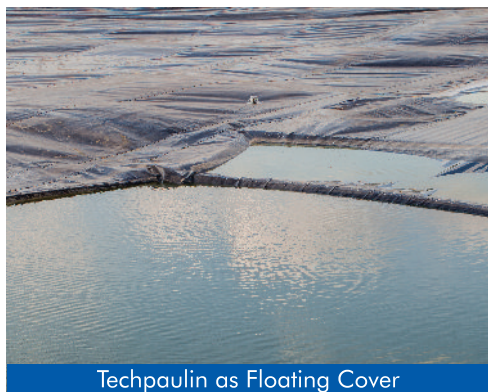
- High resistance to puncture and tear
- Low coefficient of expansion and multi layer lamination makes it an ideal lining membrane due to good water barrier property
- Being light weight, reduces installation time
- Techpaulin are food grade and rot resistant having good lining capabilities
- **Tips for Excellent Pond Lining**

- After excavation, ground surface is prepared with good compaction and smoothened surface and it is ready to use the Techpaulin lining
- Can also be sandwiched between layer of mud and brick at preparation stage



Techpaulin Pond Liner

POND COVER



Techpaulin as Floating Cover

Suggested Colours:

■ Royal Blue ■ Coal Black

- Can also be used additionally as a floating cover to protect contents from evaporation and contamination
- Can also be used to line / contains waste water lagoons to prevent spread and contamination of adjoining land

Properties

- Good water barrier resistance
- UV resistance
- Food grade
- Rot resistant
- Light weight and easy to handle
- Joints are ultrasonically welded
- 100% leak proof

ODOUR CONTAINMENT COVERS, EFFECTIVE LANDFILL COVERS

- Due to high gas barrier and water barrier, Techpaulin can also be used to cover landfill, etc. and prevents odour / gas from spreading
- Moving garbage trucks can be covered to prevent smell, odour and wastage from flying around

Properties

- High resistance to puncture and tear
- Low co-efficient of thermal expansion
- Light weight hence flexible



Techpaulin - Containment Cover

Suggested Colours:

■ Royal Blue ■ Coal Black

COVERS

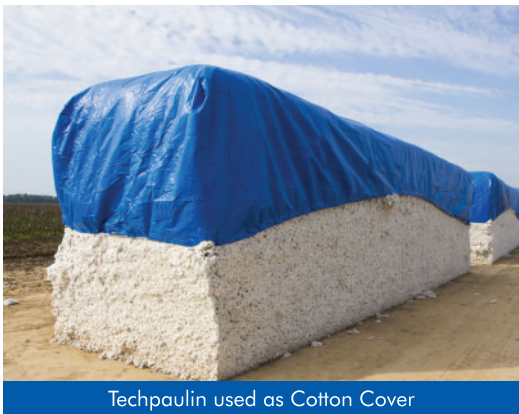
Techpaulin is a strong product. It's puncture and tear resistant and ideal for covers and tarpaulins.

Can be used for:

- Brick covers
- Hay bale cover
- Cotton cover
- Coal cover



Techpaulin Coal Cover



Techpaulin used as Cotton Cover

Suggested Colours:

- Golden Yellow
- Royal Blue
- Chilli Red
- Coal Black

Properties

- High durability even when exposed to UV radiation
- Strong wind weathering property
- Tear and puncture resistance
- Rot resistance

INDUSTRIAL & TRANSPORTATION COVERS

Can be used as a wrap film / cover to protect cargo from dust & moisture.



Large cargo covers offers excellent protection

Can be used for covering

- Steel coils
- Ductile iron pipes
- Machineries in transit
- Large over size cargoes specially during movement
- Truck tarpaulins



Truck Tarpaulins

Properties

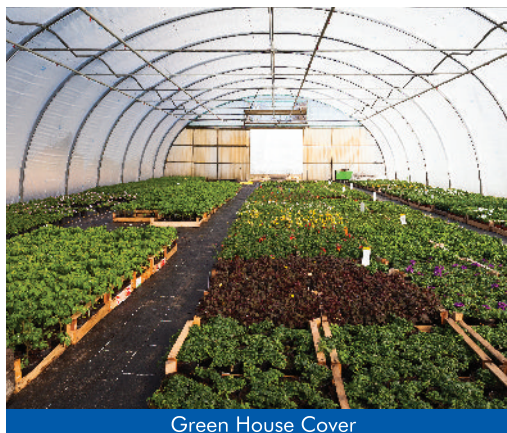
- Water resistance and good barrier
- Prevents rust and corrosion
- Additional layer of corrosion inhibitor can be provided
- Odourless, non-toxic and food grade
- Wind resistant and high tensile property
- Tear resistant

Suggested Colours:

- Golden Yellow
- Royal Blue
- Coal Black

GREEN HOUSE

- Use of Techpaulin in green houses provides optimal protection against weather extremities, heat, cold or heavy rains
- Special ingredients and design provides higher light transmission
- Long life and good mechanical properties
- While it prevents harmful UV rays outside, but provides indirect or defused light with equal light dispersion due to special additives used. Such defused light reduces stress and has positive and uniform influences on plant growth



Green House Cover



Green House Application

Properties

- Anti fogging
- UV blocking
- Cooling effect
- Anti dust
- High wind resistance
- Chemical / Pesticide resistance

Suggested Colours: ☐ Natural Colour

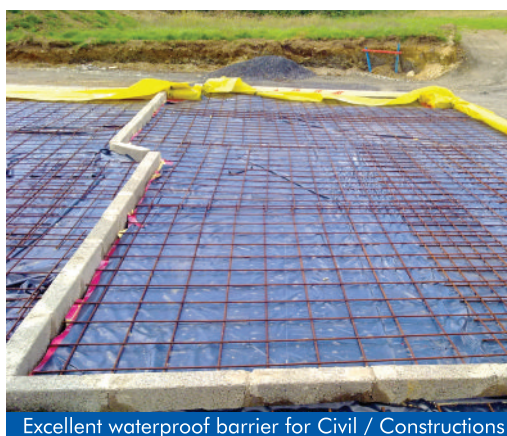
CIVIL ENGINEERING

Due to its exceptional waterproof property, Techpaulin is an ideal material for use as a waterproof layer in civil engineering / construction.

- Membranes are laid to prevent moisture / vapour migration through concrete slab which also affects adhesives used for flooring systems
- Can also be used during construction of external walls
- Could be used during column footing, overlay, parking floor overlay, side curtain for retaining wall, terrace / podium waterproofing, basement capping, swimming pool, seepage prevention, slip membrane for concrete roads and runways, etc.

Properties

- Puncture resistance
- Temperature resistance
- Low shrinkage
- High tensile strength
- Weather resistance
- Light weight



Excellent waterproof barrier for Civil / Constructions

Suggested Colours:

☒ Royal Blue ☒ Military Green ☒ Coal Black

LUMBER COVER / TIMBER PACK

Lumber wrap is a special film which blocks sun rays and prevents heat build-up.

- Prevents condensation and staining of wood
- Outside layer reflects light and provides area for marking
- Extremely rigid material can be used in extreme weather
- Can also be used to wrap lumber in raw state to prevent deep scratches and damages during handling and transporting



Techpaulin to protect Timber / Logs from extreme weathers



Techpaulin as Lumber Wrap

Suggested Colours:

- Arctic White ■ Royal Blue ■ Natural

Properties

- Heavy duty - yet light weight
- 100% water & weather proof
- Tear resistance
- Chemical resistance

OTHER INNUMERABLE APPLICATIONS



Two Wheeler Covers



Market Shelters



Temporary Construction Covers



Temporary Tents



Boat Covers

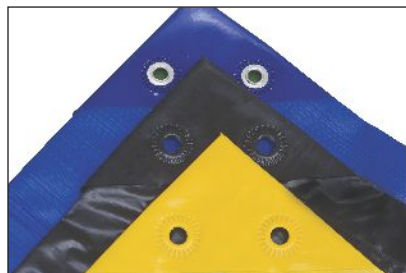
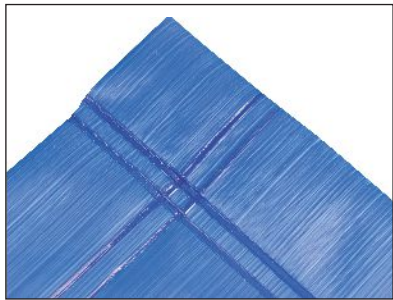
FINER DETAILS THAT MAKE A WORLD OF A DIFFERENCE

Techpaulin is reliable, matches high quality standards and finds application in an extensive range of agricultural and industrial applications.

1. Ultrasonic Welding

Unlike other material sheets, which are joined by stitching and stapling or any other conventional process, Techpaulin sheets are joined by a hi-tech process of ultrasonic welding.

- Faster than conventional process
- Clean and precise joints
- Further guarantee that there is no leakage






2. Eyelets

Techpaulin provides reinforced eyelets at the corners and along the sides to form a strong attachment points for hold / grip & tying it.

- Prevent tearing or stretching
- Extremely durable
- Eyelets branded originality identified
- Longer service life
- Easier usage

3. Extensive Range

Techpaulin is available in all popular standard formats & sizes, ready to use carpet / sheet & roll form also available for customization.

-  **GSM / Thickness:** Reinforced multi layer structure films ranges from ultra thin to heavy grade. Film is available in 70, 90, 120, 150, 200, 250, 300, 350 GSM.
-  **Sizes:** Techpaulin offers a wide range of size and also long size which can be fabricated to a custom-made size as per customer's need.
-  **Colours:** A diverse range of colours.

QUALITY AND STANDARDS

Techpaulin is made from the finest material and constructed with the highest quality of workmanship with very latest state-of-the-art processing equipments. It is manufactured for performance exceeding IS Standard 14611-2016 (Multi layered cross laminated film).

Technical Values for Multi Layered Cross Laminated Sheets

Characteristics	Requirements				
	XLN Extra Light	LN Light	MN Medium	HN Heavy	XHN Extra Heavy
Total mass per unit area, Min, g/m ²	35-60 GSM	70-100 GSM	120-150 GSM	200-250 GSM	300 GSM
Tensile strength	Kg/cm ²	Kg/cm ²	Kg/cm ²	Kg/cm ²	Kg/cm ²
1. Longitudinal direction	250	250	250	250	250
2. Transverse direction	200	200	200	200	200
After ageing at 70+/- 1°c for 168h, Min, Kg/cm ²	30% decrease from the original				
1. Longitudinal direction					
2. Transverse direction					
Elongation at break, Min	%	%	%	%	%
1. Longitudinal direction	300	400	400	400	400
2. Transverse direction	250	300	300	300	300
Tear strength, Min	g	g	g	g	g
1. Longitudinal direction	650	1200	2080	3200	4000
2. Transverse direction	450	900	1600	2800	3500
After ageing at 70+/- 1°c for 168h, Min, Kg/cm ²	30% decrease from the original				
3. Longitudinal direction					
4. Transverse direction					
Dart impact strength, Min	g 100	g 250	g 400	g 700	g 800
Average tensile strength & elongation at break after exposing to UV radiation and weathering, Min (kgf)	50% of the original strength				

The above values may vary as per actual GSM of the sample. The information is provided in good faith. Time Technoplast Ltd., accepts no liability for misuse of product or information.



Corp. Off.: 55, Corporate Avenue, 2nd Floor, Saki Vihar Road, Andheri (East), Mumbai - 400 072, Maharashtra, India | **Tel.:** +91-22-7111 9999 / 9500 | **Fax:** +91-22-2857 5672.

E-mail: techpaulin@timetechnoplast.com | **Website:** www.techpaulin.com | www.timetechnoplast.com

REGIONAL OFFICES:

CHANDIGARH: SCO: 146-147, 2nd Floor, Sector-34A, Chandigarh - 160 022. Tel.: 0172 - 264 6542 / 401 1142 / 266 5518.

NCR: 606-607, Alpha Tower-1, Sector-9, Vasundhara, Landmark - Kishan Chowk, Ghaziabad - 201 012, Uttar Pradesh. Tel.: 012 - 669 9700 / 669 9701.

KOLKATA: 14/B Royd Stree, Navras, 1st Floor, Park Street P.S, Kolkata - 700 016. Tel.: 033 - 6455 7566 / 6444 4795 / 2226 4591.

BARODA: F-1, 1st Floor, 7/A, Utkanth Society, B/H. Alkapuri Club, R.C. Dutt Road, Alkapuri, Baroda - 390 005. Tel.: 0265 - 232 0668 / 235 8742.

HYDERABAD: NCL Ganga Plaza, 1st Floor, Survey No. 88/A, AZA, E, Pet Basheerabad, Near Suchithra X Road, Hyderabad - 500 055. Tel.: 040 - 2794 2777.

BENGALURU: #128, (Old No. 245), 2nd Floor, R.V. Road, V.V. Puram, Bengaluru - 560 004. Tel.: 080 - 2660 8061 / 2660 8056.

CHENNAI: New No. 12, Old No. 167, Flat No. 204, 2nd Floor, Eldams Square, Eldams Road, Alwarpet, Chennai - 600 018. Tel.: 044 - 4501 0019 / 4501 0029. Fax: 044 - 4501 0039.

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