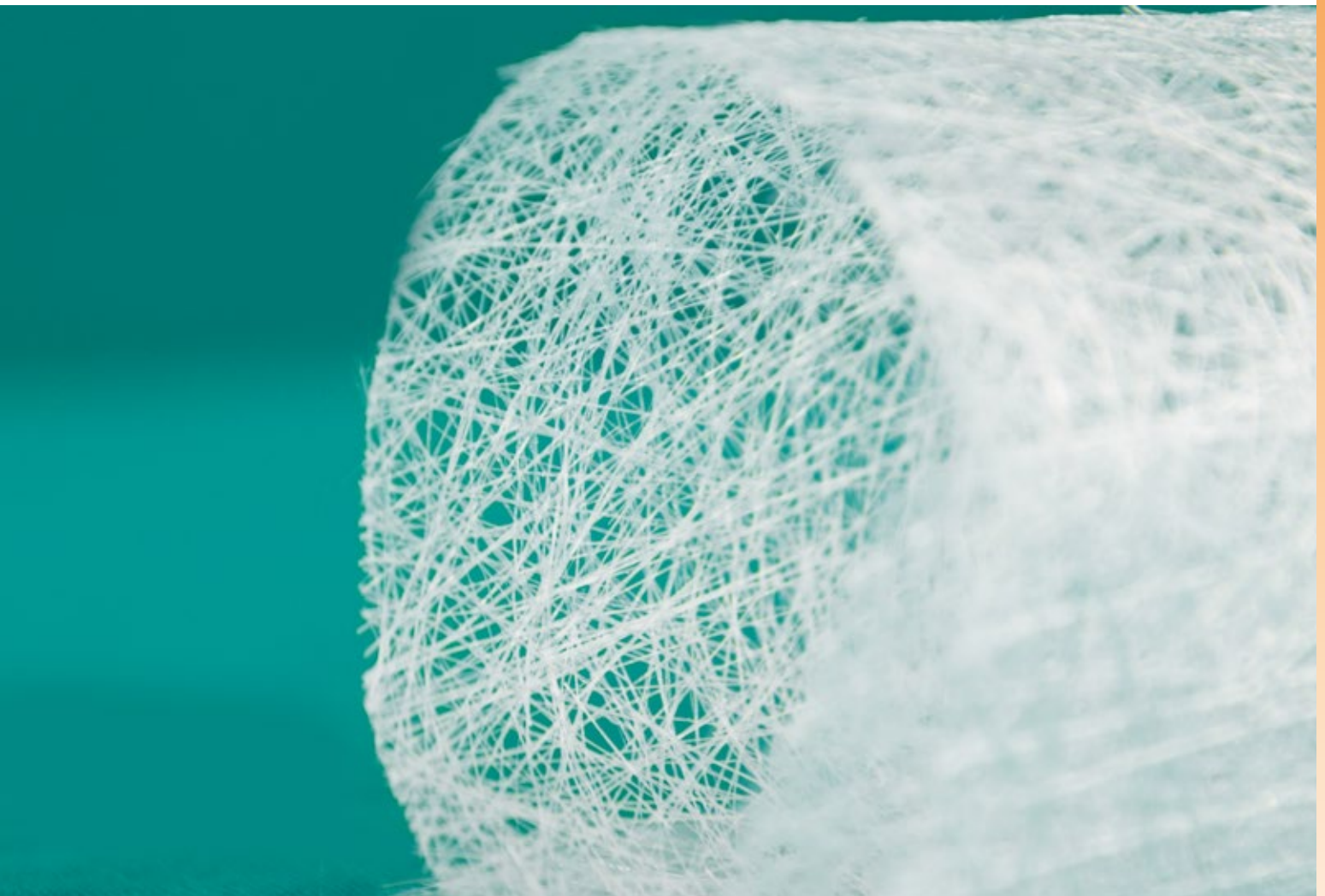


CHOPPED STRAND MATS



CHOPPED STRAND MATS IN NEW DIMENSIONS

Light-weight construction, sustainability and efficient use of resources are the topics in the focus of interest in the 21st century and therefore main drivers in the steadily growing composite industry.

Backed by many decades of experience, we market an extensive product range of continuously growing variety. Our name is a synonym of best quality and excellent service.

Together with our customers, we develop customized fibre glass mat solutions for the global market.

With our new innovative mat technology (PD VarioMat®) we can supply unique tailor-made glass fibre mats and hybrid mats to the market and pioneer new applications in fibreglass reinforced composites.



glass type

- E-glass ... Mat type MA
- ECR-glass ... Mat type MR

binder type

- powder bonded
- emulsion bonded
- stitched

mat construction

- strand tex (10 - 60 tex)
- chop length (25 - 150 mm)

sizing

- processing characteristics
- mechanical values

dimension

- square measures (60 bis 900 g/m²)
- roll widths (5 - 345 cm)
- roll lengths
- custom tailored edge trimming

IMPORTANT PRODUCT LINE FEATURES

Chopped strand mat is a textile fabric that consists of chopped glass fibres in an isotropic arrangement relative to each other, linked by different types of binding.

Chopped glass mat finds application in a wide range of areas, from manual lamination in the production of swimming pools upto the fully automated production of panels in the automotive sector.

Our target is to deliver a mat type that matches your process. The interaction of filament diameter, binder and chopped length produces mats of highest quality for your particular applications.

Oschatz-Glas has in-depth know-how of special sizing agents that significantly improve the processing behavior and the mechanical properties of the composite materials. Based on many decades of application experience, these sizing agents are in a process of constant improvement for the benefit of our customers.

You, the customer, determine which roll lengths and widths, finished weight and edge finish are ideal for your process.



EXPLANATION OF THE CHOPPED STRAND MAT CODE

MA 111-300-270-S

| | | | | | | |
|-----|---------------------|--------------|------------------|--|-----------------|----------------|
| MA | 1 | 1 | 1 | 300 | 270 | S |
| MA | 1st digit | 2nd digit | 3rd digit | 4th digit | 5th digit | 6th digit |
| mat | type of mat binding | strand titre | special features | area-related weights in g/m ² | mat width in cm | edge execution |



MAT BINDER

| product | Binder types | characteristics / applications |
|---------|---|---|
| MA1XX | Powder bonded Polyester based | <ul style="list-style-type: none">• Easily soluble in styrene• High fibre bond• Applications in continuous processing• Mats for automotive industry |
| MA2XX | Powder bonded Polyester based | <ul style="list-style-type: none">• Moderately soluble in styrene• Good fibre bond, also in the impregnated state |
| MA3XX | Powder bonded Polyester based | <ul style="list-style-type: none">• Severely soluble in styrene• Very good fibre bond• For molding applications |
| MA4XX | Powder bonded Based on <i>Copolyester</i> | <ul style="list-style-type: none">• Rapidly soluble in styrene• Mats with very high draping capability• Very good impregnation• Suitable for hand lay-up |
| MA5XX | Stitched mat (binder-free) ¹⁾ | |
| MA6XX | Emulsion bonded Based on vinyl acetate / polyester | <ul style="list-style-type: none">• Rapidly soluble in styrene• Very soft with high draping capability• Particularly suitable for hand lay-up |
| MA7XX | Needled mat (binder-free) ¹⁾ | |
| MA8XX | Powder bonded Based on polypropylene | <ul style="list-style-type: none">• For applications in thermoplastic reinforcement |
| MA9XX | Powder bonded Epoxy compatible | <ul style="list-style-type: none">• For applications with epoxy resin |

¹⁾There is a separate product information for this mat type.



STRAND TEX

| product | fineness | characteristics / applications |
|---------|---------------------------|---|
| MAXX | 10 tex PD LightStrand® | <ul style="list-style-type: none">• Ultra-fine• For mats with low area-related weights• Very high strand density at higher area-related weights• For applications with excellent surface quality• High resin absorption |
| MAX0X | 12 tex PD LightStrand® | <ul style="list-style-type: none">• Very fine• For applications with very high surface quality |
| MAX1X | 15 tex | <ul style="list-style-type: none">• Fine• For applications with high surface quality |
| MAX2X | 20 tex | <ul style="list-style-type: none">• Medium-fine• Open structure, moderate impregnation and air release |
| MAX4X | 30 tex | <ul style="list-style-type: none">• Medium-fine• Open structure, fast impregnation and air release• Low resin absorption |
| MAX6X | 60 tex | <ul style="list-style-type: none">• Coarse• For mats with high area-related weights• Due to the open structure, very rapid impregnation and air release |
| MAX7X | 10 tex / 30 tex | <ul style="list-style-type: none">• Different strand thicknesses separated on the top and bottom of the mat for excellent surface quality and fast impregnation |
| MAX8X | 15 tex / 30 tex | <ul style="list-style-type: none">• Different strand thicknesses separated on the top and bottom of the mat for high surface quality and rapid impregnation |
| MAX9X | 15 tex / 60 tex | <ul style="list-style-type: none">• Different strand thicknesses separated on the top and bottom of the mat for highly filled resins and high surface quality |

CHOPPED STRAND MATS IN INCOMPARABLE DIVERSITY



CHOP LENGTH

| product | chop length | characteristics / applications |
|--|-------------|--|
| <div>MAXX1</div> <div>MAXX2</div> <div>MAXX3</div> <div>MAXX4</div> <div>MAXX7</div> | 50 mm | <ul style="list-style-type: none"> • Standard chop length |
| MAXX5 | 25 / 50 mm | <ul style="list-style-type: none"> • Nominal percentage approx. 25% / approx. 75% • Percentage by weight approx. 20% / approx. 80% • 25 mm - chop length only at the top side of the mat • For applications with very high surface quality • High fibre density |
| MAXX8 | 75 / 50 mm | <ul style="list-style-type: none"> • Nominal percentage approx. 85% / ca. 15% • Percentage by weight approx. 90% / approx. 10% • Superior mat strength • Retention of surface when stretched • Specially for mats with an area-related weight of > 225 g/m² |
| MAXX9 | 50 / 100 mm | <ul style="list-style-type: none"> • Nominal percentage approx. 90% / approx. 10% • Percentage by weight approx. 85% / approx. 20% • Higher mat strength • Specially for mats with an area-related weight of < 225 g/m² |
| MAXXL | 150 / 50 mm | <ul style="list-style-type: none"> • Nominal percentage approx. 75% / approx. 25% • Percentage by weight approx. 85% / approx. 15% • Superior strength, improved impregnation speed |

SIZING

| product | characteristics / applications |
|--|---|
| <div>MAXX1</div> <div>MAXX3</div> <div>MAXX4</div> <div>MAXX5</div> <div>MAXX8</div> <div>MAXX9</div> <div>MAXXL</div> | <ul style="list-style-type: none"> • Silane-based sizing • Very good values for UP, vinylester and epoxy resins • Very good osmotic behaviour • Resistant to aggressive media • High weather resistance • Outstanding wet-out |
| MAXX2 | <ul style="list-style-type: none"> • Silane-based sizing • Very good values for UP, vinylester and epoxide resins • Very high transparency • Very high electrical resistance |
| MAXX7 | <ul style="list-style-type: none"> • Silane-based sizing • all raw materials used including the mat binder are approved for the manufacture of container systems in contact with foodstuffs, amongst others for the manufacture of vessels and pipes for drinking water |
| MAXXT | <ul style="list-style-type: none"> • Silane-based sizing for application in thermoplastic reinforcement |

SPECIAL DEVELOPMENTS FOR PARTICULAR APPLICATIONS

Your requirements are in a constant process of change, just like our chopped strand mats.

To keep abreast with the permanently rising requirements on weight reduction, higher surface quality, less raw material input or higher specific strengths, we permanently develop new types of mats.

With **PD LightStrand®**, you are able to obtain the same level of strength with lower component weight or distinctly higher strengths with the equivalent finished weight.

PD VarioMat® supports the direct combination of fibres and textiles, which in the past, had to be combined in several steps in production expending more time and effort.

The **mat types MA 941/911** and **MA 441/411** are perfectly suitable for the substitution of emulsion mats, showing an improved compatibility with epoxy systems and a substantially reduced resin absorption.

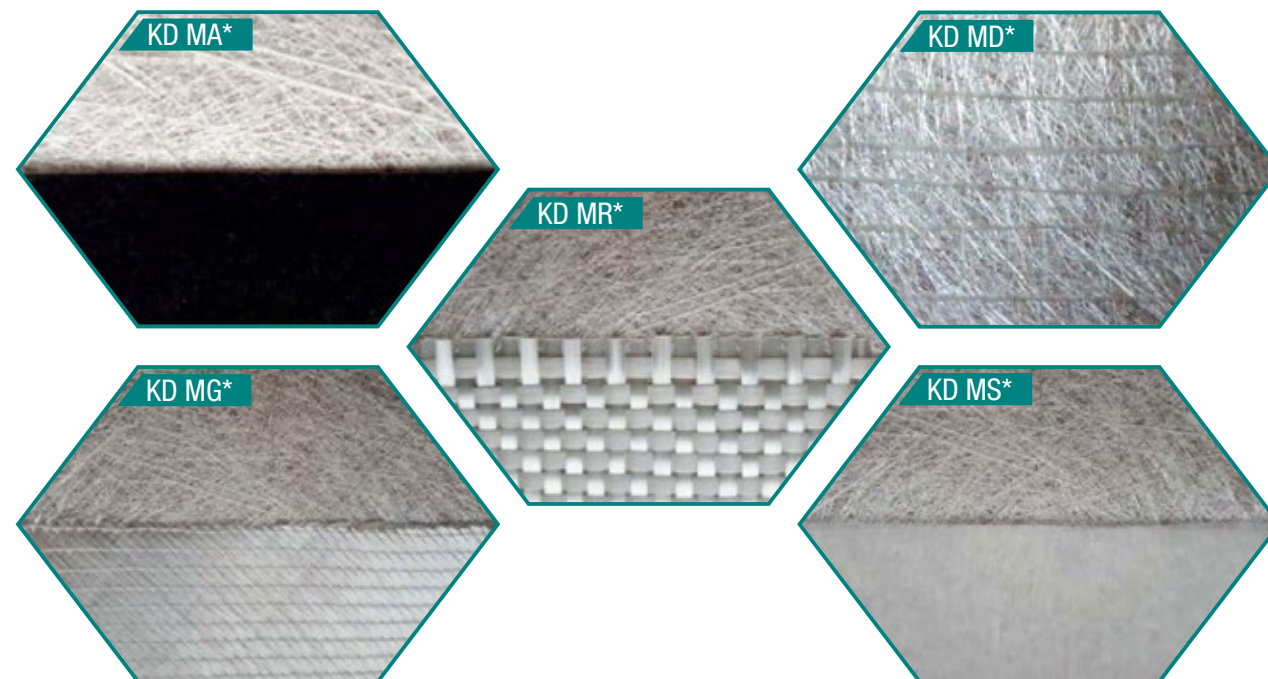
The objective of all these special mats is to provide you with the perfect product for your process.



PD VarioMat®

The potential combinations are as large as the possible uses.

With our new unique mat technology we are, for the first time, able to combine different types of textiles with chopped mats without a sewing thread. Whether decorative textile or glass fibres are applied is of no concern.



Hybrid mats @ PD VarioMat®

Even a combination with direct roving, for local reinforcement, is possible at any position. By using glass complexes or glass fabrics an additional directional reinforcement can be achieved.

(* KD...Combination E-glass bonded; M...Chopped strand mat; G...Multiaxial; R...Woven roving; A...Polyester veil; S...Glass veil; D...direct roving)

Especially made for use in the automotive industry, PD VarioMat® can be produced with defined different finished weights.

The chopped strand mat with edge reinforcement is particularly suitable for the production of headliners and sunroofs. Hence in the customer process, additional production steps and mat inserts can be saved.

Possibilities include, for example, 200 g/m² in the selvedge area and 100 g/m² in the mid-area.



Chopped strand mats with reinforced edges @ PD VarioMat®

MAT MA 441

Offering the best properties of your strand powder mat combined with the softer deformability of emulsion mats.

- Reduced mat thickness approx. up to 45% compared to standard mats
- Excellent fibre bond with low binder content
- Remarkably fast fibre glass impregnation
- Outstanding drapability during processing
- Reduced processing times
- Outstanding laminate parameters

MAT MA 941

High-end glass fibre mat for your epoxy resin reinforced GFRP- and flame retardant systems.

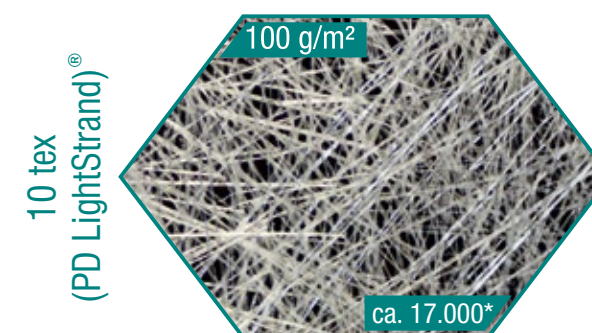
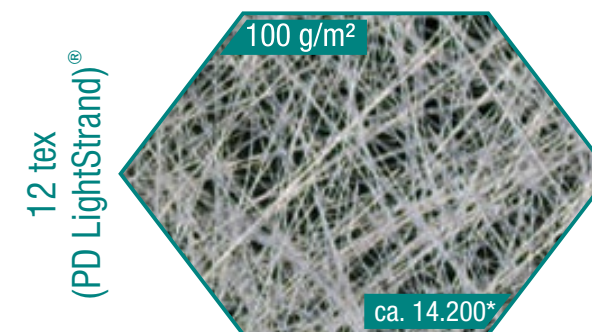
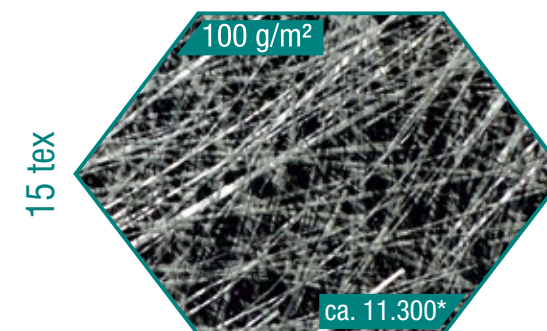
- Low mat thickness
- Excellent fibre bond
- Remarkably fast impregnation
- Excellent drapability of the mat during processing
- Excellent processing and compatibility properties with epoxy resin

MA 441/ MA 941 mat is supplied in the following sizes

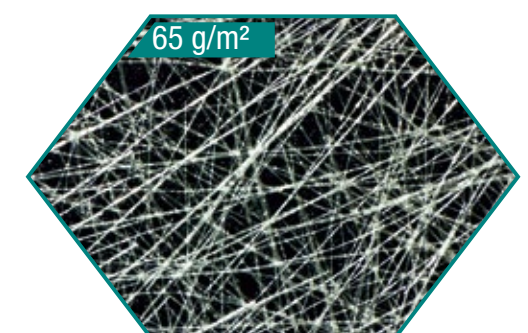
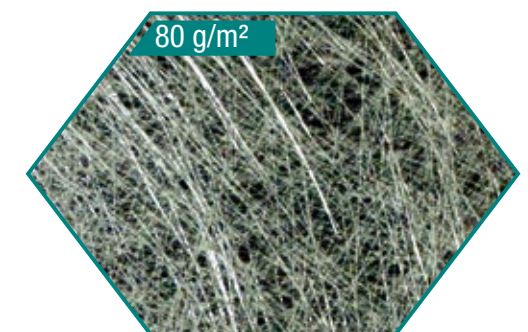
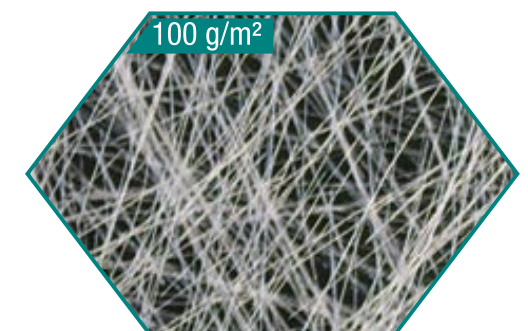
Area-related weights: 275 - 900 g/m²
 Loss on ignition: from 2,5 to 1,5%
 Mat width: up to 195 cm

PD LightStrand®

EXCELLENT SURFACE



WEIGHT REDUCTION



- Higher fibre density with constant finished weight with PD LightStrand® fibres
- up to 50% more fibres per unit of area

- Constant fibre density with reduced finished weight with PD LightStrand® fibres
- up to 40% weight reduction with comparable properties

* Number of chopped glass fibres on an area of 0.1 m² with a split up rate of 85%.



STYLE

Mat width

Depending on the finished weight, rolls of the following sizes are available.

| | | |
|---------------|-----------|-----------|
| Weight (g/m²) | ≤ 100 | > 150 |
| Width (cm) | up to 330 | up to 345 |

Edge design

In addition to the standard designs of one side or two edges trimmed, we now also offer untrimmed mats between 125 and 195 cm width. Untrimmed mats are ideal for hand lay-up processes as they permit seamless transitions within a component.



Cuttings

In addition to fabric rolls, for the first time we offer cost-neutral cuttings. Advantage: time saving and waste reduction

Width: max. 200 cm
Length: max. 350 cm

tube

The mats are generally wound onto cardboard tubes with an internal diameter of 100 mm. The rolls are tightly wound and stright.

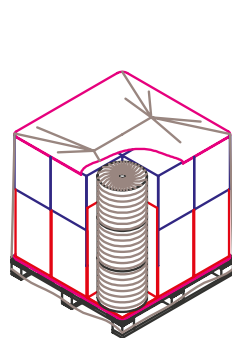
roll length

The mat is produced in the desired roll length according to requirements. The roll length depends on the mat product line and the type of packaging. A max. outside diameter of 60 cm and a total roll weight of 300 kg is possible.

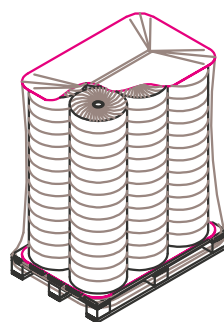
| roll length (m) | area-related weight (g/m²) |
|-----------------|----------------------------|
| 400 | ≤ 100 |
| 350 | ≤ 130 |
| 350 | ≤ 160 |
| 240 | 200 |
| 220 | 225 |
| 170 | 300 |
| 150 | 375 |
| 120 | 450 |
| 100 | 600 |
| 65 | 800 |

PACKAGING

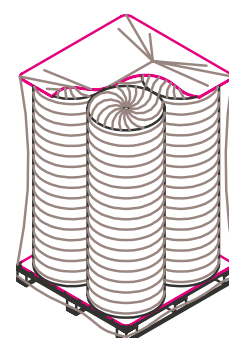
Each individual roll is wrapped in PE - foil. The single roll is packed without carton or in a carton if required. The packaging is always matched to the respective mat product line. Mat tapes with a width of < 80 cm are packed in foil bags with several units to a carton.



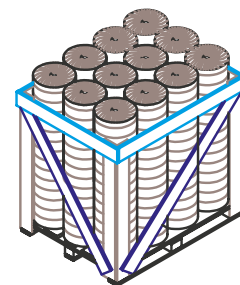
Mat with width up to 160 cm
Mat rolls standing on pallet



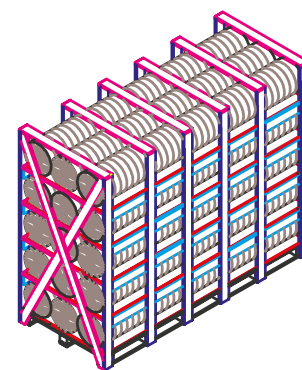
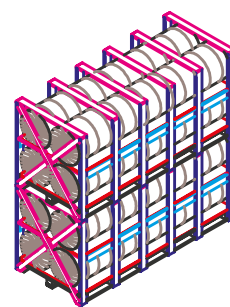
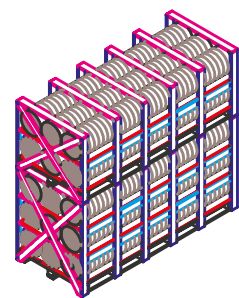
Mat with width up to 160 cm
with 6 rolls to each pallet
Base size 80 x 120 cm
Lightweight or Europallet



Mat with width up to 160 cm
with 9 or 4 rolls to each pallet,
base size 114x114 cm
Type CP3



Mat with width up to 205 cm
standing on pallet with base
size 110 x 110 cm.
The pallet is provided with a
wooden frame to secure the
mat rolls



mat with width up to 340 cm

Rolls lying on pallet with wooden frame and base dimensions 113 x 220 / 235 / 255 / 270 / 290 / 310 / 325 / 340 cm
The stack height is adapted to the roll diameter. The packaging is preferentially divided into two units: the base and the stacked pallets. It is possible, however, to furnish the packaging as one unit.

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