



Product Information



RUTEC Splinter protection

Product description:

RUTEC splinter protection is produced of outstanding natural rubber qualities. The high share of natural latex as a raw material and a special protective processing method ensure that **RUTEC** natural rubber products have an extremely high elasticity and tear resistance. These properties ensure that deflecting and rebounding projectile splinters and fragments are spatially limited to the projectile catching device, especially when using the splinter protection curtain before "hard" projectile catching systems such as steel lamellae and chain. The elasticity of the material also leads to projectile penetrations closing again almost completely and the curtain only having very small holes. This warrants increased safety of the shooter. This safety in connection with economic efficiency is an important argument for use of **RUTEC** products.



RUTEC splinter protection has been certified for the following ammunitions pursuant to the VPAM VRG 2012 by the Beschussamt Munich regarding deflection and rebounding conduct:

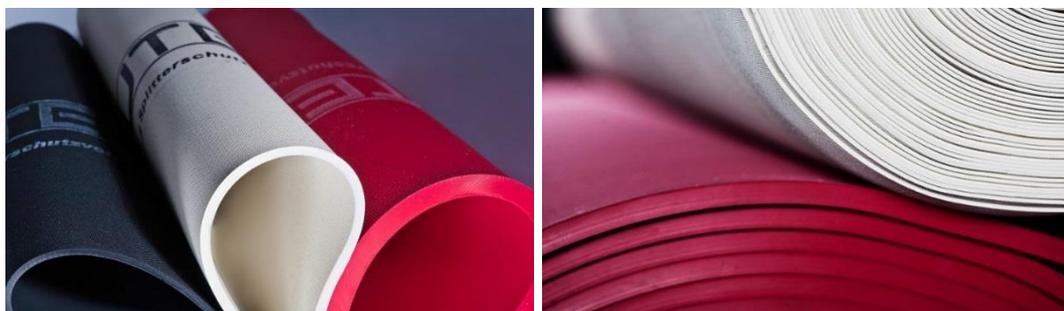
- DM41
- PTP2.0
- QD-Pep
- Action 4
- Green Range

RUTEC is available in different thicknesses with different physical properties such as colour, shore hardness, UV resilience, etc. **RUTEC** can be delivered according to the specified dimensions in the trimmed piece, as rolled goods for on-site cuts or as plate goods for placement and gluing.

RUTEC Splinter protection

RUTEC splinter protection is available vulcanised as rolled goods in the following dimensions:

Quality	Strengths	Length	Width	m ²
R1038 (red)	1.6 mm; 2 mm; 3 mm	24 m	1.4 m	33.6 m ²
	4 mm; 5 mm; 6 mm; 8 mm	20 m	1.4 m	28.0 m ²
	10 mm; 12 mm; 15 mm; 20 mm; 25 mm	10 m	1.4 m	14.0 m ²
R1078 (black)	1.6 mm; 2 mm; 3 mm	24 m	1.4 m	33.6 m ²
	6 mm	20 m	1.4 m	28.0 m ²
R1267 (white)	1.6 mm; 2 mm; 3 mm	24 m	1.4 m	33.6 m ²
	6 mm	20 m	1.4 m	28.0 m ²



Technical data:

Product specifications		RUTEC R1038	RUTEC R1267	RUTEC R1078
Colour		Red	White	Black
Hardness (ASTM 2240-1986)	Shore A	35 ± 5	35 ± 5	35 ± 5
Specific weight	g/cm ³	1.01	1.01	1.01
Temperature resilience, perma-	°C	-40 to +70	-40 to +70	-40 to +70
Abrasion value (DIN 53516)	mm ³	70	70	70
Tensile strength (ISO 37-1977)	N/mm ²	25	25	25
Rebound capacity (BS 903 Part 22,3)	%	76	76	76
Elongation at break (ISO 37-1977)	%	800	800	800
Special product features				
UV-resilience		–	–	Good
Ozone resilience		–	–	Yes
Cutting and tearing resilience		Good	Good	Good
Deformation stability		High	High	High
Dampening properties		Good	Good	Good

Comment:

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RUTEC Splinter protection

RUTEC is produced in certified production sites according to the specifications of ISO 9002, in conjunction with the new European chemicals regulation REACH, and characterised by the following properties:

➤ **Protection from deflected and rebounding projectiles**

RUTEC closes independently after being shot through and prevents the rebounding of shot splinters or fragments in the area of the shooter.

➤ **Maximum standing times**

RUTEC products offer best service lives due to their outstanding reclosure properties and thus permit an outstanding cost-benefit ratio.

➤ **Reduction of lead dust**

In case of "hard" projectile catching devices, the splinter protection curtain can, if installed correctly, close off most of the lead dust and thus prevent the released dust from entering the shooting range and thus the inhalation area of the shooter.

➤ **Noise reduction**

Due to the outstanding dampening properties, sound immissions from impacting and disintegrating projectiles in the area of "hard" projectile catching devices (steel lamella, chain) are reduced to a minimum.

Assembly:

We recommend splinter protection at a minimum thickness of 6 mm in the following designs for "hard" projectile catching devices:

- 1 x 6 mm as single suspension
- 2 x 3 mm as endless curtain

For proper assembly of RUTEC splinter protection, we also offer the corresponding rail systems. Feel free to contact us about this.

Limitations:

RUTEC protective curtains are not suitable for using ammunition with weak propellant charges or projectiles from air rifles. The curtains should always hang freely and not be attached to the ground. The splinter protections must be continually installed behind all target illustrations. An overlap of at least 150 mm between the individual ones is recommended.

RUTEC® Cover tarpaulin

Product description:

RUTEC R1078 is outstanding for covering sand projectile catching devices. This prevents swirling dust or sand from spreading through the entire facility. Additionally, the tarpaulin keeps off foreign substances such as paper, wood, etc. and thus ensures low-maintenance and interference-free operation.



The excellent reclosure property of natural rubber permits service lives of up to 500,000 shot per system.

RUTEC R1078 is UV-, and ozone-resilient and therefore also suitable for use in outdoor stands. The cover tarpaulins are made of natural rubber lanes and can accordingly be delivered cut to size for the individual projectile catching device.

Technical data:

Colour	Black
Hardness (ASTM 2240-1986)	35 ± 5 Shore A (IRHD)
Specific weight	1.01 g/cm ³
Temperature resilience, permanent	-40 to +70 °C
Abrasion value (DIN 53516)	70 mm ³
Tensile strength (ISO 37-1977)	25 N/mm ²
Elongation at break (ISO 37-1977)	800 %
UV- and ozone resilience	Good

Comment:

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RUTEC Projection paper

Product description:

RUTEC R3000 projection paper is ideal for digital targets in indoor shooting ranges. The use of an opaque polyethylene lining prevents on one hand a disturbing show-through, on the other hand, it guarantees the stability of the material.

Moreover bilateral notches of the sleeves, with a depth of 40 mm and a width of 15 mm, ensure a secure mounting of the rolls.

The end of the roll is indicated by a visual marking at the last meters.

To ensure trouble-free use, we offer **RUTEC** R3000 projection paper in the following two versions:



Grammage (ISO 536)	190 g/m² (± 5 %)	250 g/m² (± 5 %)
Structure	Kraft paper white PE-lining black Kraft paper brown	Kraft paper white PE-lining black Kraft paper brown
Roll width	1.44 m – 2.64 m	2.65 – 4.20 m
Roll length	100 m	60 m
Sleeve diameter	70 mm	95 mm
Tensile strength lengthwise (ISO 1924-2)	16 kN/m	26 kN/m
Tensile strength across (ISO 1924-2)	7 kN/m	15 kN/m
Tear strength lengthwise (ISO 1974)	2.2 N	4.0 N
Tear strength across (ISO 1974)	2.3 N	

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RUTEC Reflexion Tarpaulin

Product description:

RUTEC R1267 reflection tarpaulin is perfect for digital hit recognition in indoor shooting ranges.

Due to its outstanding reclosure properties, it offers the benefit of a 5 to 8-times higher service life compared to conventional reflection foils, at equal projection capacity. It also limits released lead dust almost completely to the projectile capture area.



For use as a pure reflection medium, we recommend a thickness of 1.6mm. At this thickness, the **RUTEC** reflection tarpaulin also forms limited splinter protection that is suitable as an additional protection particularly for "soft" projectile capture devices. In a stronger design, **RUTEC** R1267 can be used as a reflection medium for hard projectile catching devices and complete splinter protection.

Technical data:

Colour	White
Hardness (ASTM 2240-1986)	35 ± 5 Shore A (IRHD)
Specific weight	1.01 g/cm ³
Temperature resilience, permanent	-40 to +70 °C
Abrasion value (DIN 53516)	70 mm ³
Tensile strength (ISO 37-1977)	25 N/mm ²
Elongation at break (ISO 37-1977)	800 %

Comment:

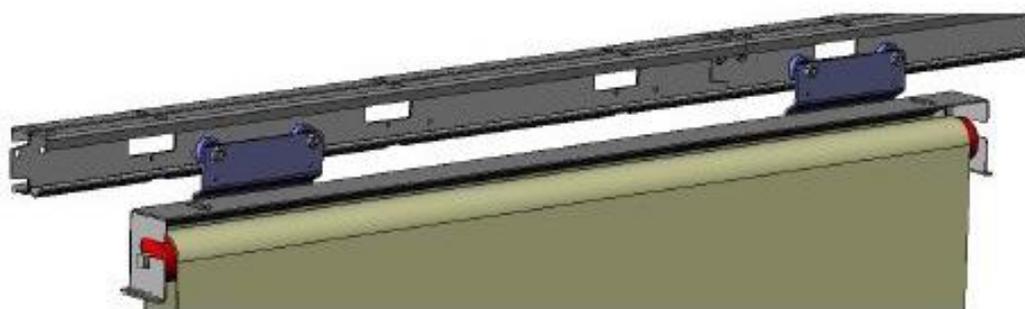
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RUTEC Rail systems

Product description:

To offer our customers the best cost-benefits ratio, we specifically developed rail systems corresponding to the suspensions of the **RUTEC** splinter protection curtains in two versions:

- Holding frame with casters for endless curtains in a standard width of 1.4 m (of course also available in other widths on request);



- Clamping system for **RUTEC** natural rubber lanes at a clamping width of 1.4 m (of course available in other widths as well on request).



Thanks to the flexible technology, the main hit area in the curtain thus can be changed by simple horizontal movement at any time. The holding frame with casters for endless curtains additionally offers the benefit that they can be moved vertically. This permits best utilisation of the material even at strong local shooting focus. This considerably increases service life of the splinter curtains and increases their effectiveness by a multiple. On request, we also install the system in your rifle range. Feel free to contact us about this.

RUTEC Projectile capture granulate

Product description:

The **RUTEC** R5000 granulate of very wear-proof elastomer is a perfect alternative to conventional sand as a projectile catching medium. It is characterised by outstandingly good physical properties: Specifically the combination of outstanding abrasion conduct and high tensile strength ensures that the material is suitable for taking up high-energy projectiles as well.

The polygonal structure of the individual granulate grains also ensures that projectiles can deposit in the hollow spaces, which considerably reduces the creation of shot cavity. This minimises specifically the danger of deflection and bounding.



The granulate is free of N-nitrosamines and is, like all **RUTEC** products, exclusively made of REACH-compliant raw materials. Since the product is made up of different qualities, there may be deviations of the colour nuances, which, however, will not influence the physical properties at all.



RUTEC R5000 can be installed across the entire area as well as in the form of a covering coat on the present sand projectile catching device. We recommend additionally installing a subconstruction to prevent the granulate from slipping and a covering tarpaulin of our natural rubber (**RUTEC** R1078) to avoid contamination by foreign substances.

RUTEC® Projectile capture granulate

The low maintenance effort arising at the projectile capture granulate is particularly beneficial:

Since shooting at it will not lead to any dust formation, watering as required with sand becomes unnecessary. The structure of the granulate grains will mainly prevent slipping of the material, which will also make it possible to dispense with hooking and preparing. Additionally, there is no recognisable reduction of the granulate, so that this does not have to be loosened up in the meantime. As already mentioned, there will hardly be any shot cavities; their regular removal is thus dispensed with as well.

Technical data:

Material	Elastomer
Hardness	Approx. 70 - 90 ± 5 Shore A
Colour	Coloured
Grain size	5 to 25 mm
Temperature range	-40 to +80 °C, short-term up to 140 °C
Bulk weight	approx. 730 kg/m ³

Physical properties of the 4 qualities:

Hardness (DIN 53505)	± 5 Shore	75	80	85	90
Density (DIN 53479)	g/m ³	1.24	1.24	1.25	1.25
Abrasion value (ISO 4649)	mm ³	< 20	< 20	< 20	< 25
Tensile strength (DIN 53504)	N/mm ²	> 40	> 40	> 45	> 40
Elongation at break (DIN 53504)	%	> 550	> 550	> 550	> 575
Deflection elasticity (DIN 53512)	%	50	35	40	35
Tear resistance (DIN 53515)	N/mm	> 40	> 40	> 45	> 60

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RUTEC® Projectile catching lamellae

Product description:

Polyvinyl chloride, also known as soft PVC, is a highly elastic material with good mechanical properties. We developed projectile catching lamellae and loops of a special formulation for use in rifle ranges, which gives them a high tensile strength and good tear elongation. This leads to best balance between material reclosure after penetration of the projectile and high brake force.



We offer the soft PVC as rolled goods in the form of endless loops and as single lamellae. For the latter, you can also have the lamellae for present suspension systems punched directly by us. The RUTEC projectile capture lamellae or loops are produced in widths of 500 mm and thicknesses between 1 and 12 mm by default. The usual roll length is 20 m. Different dimensions are possible on request as well.

Technical data:

Hardness: (DIN 53505)	70 ± 5 ° Shore A
Density (DIN 53479/A)	1.20 g/cm ³ ± 0.01
Usage temperature	-5 to +60 °C
Flammability (DIN 53382)	B2 (Does not continue to burn or smoulder)
Sound protection (DIN 52210)	approx. 30 dBa
Elongation at break (DIN EN ISO 527-2/5A/200)	460 %
Tensile strength (DIN 53455 / ISO 527)	20 N/mm ²
Tear resistance (DIN 53515)	> 4 N/mm

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