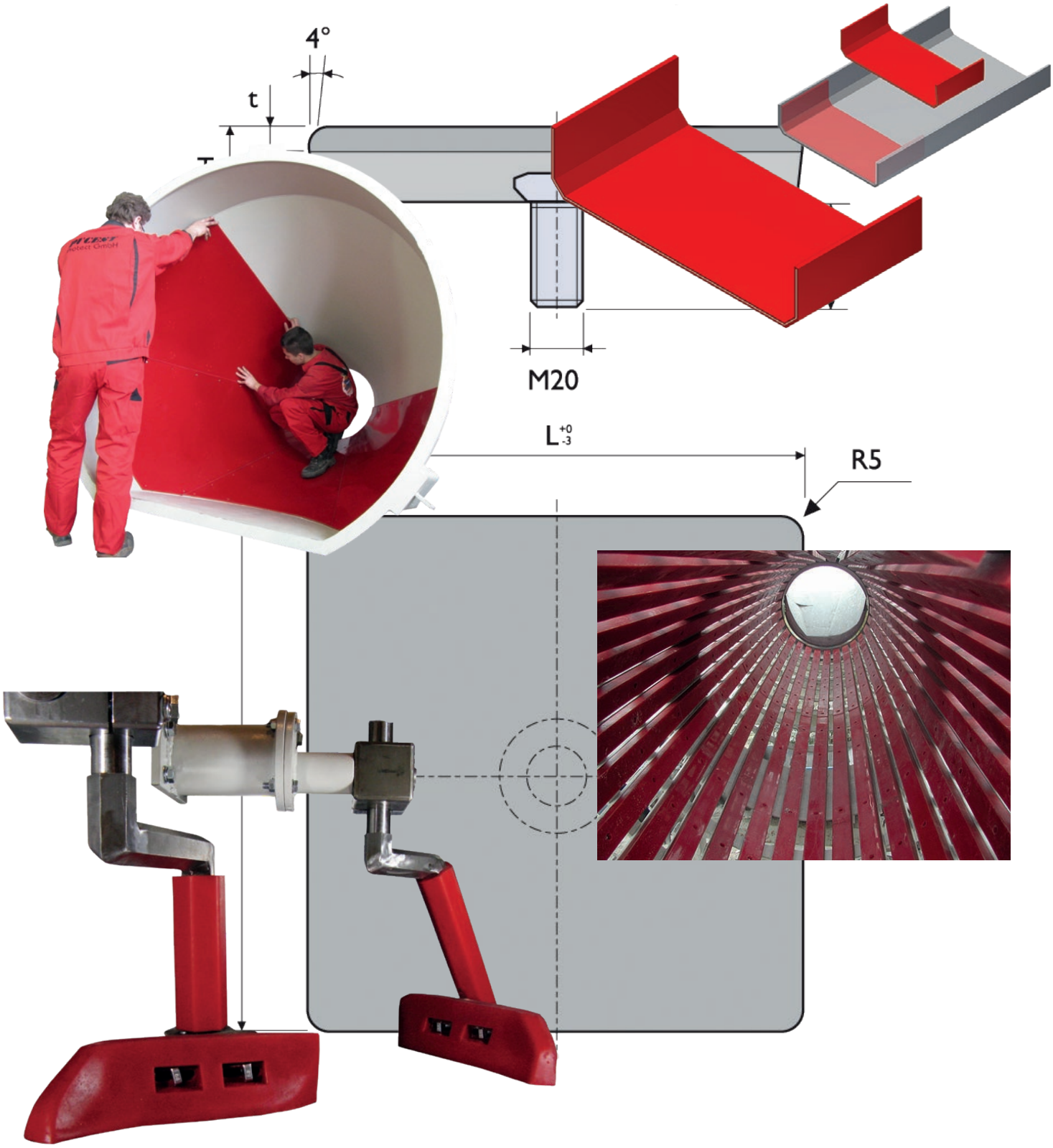

PUCEST® protect GmbH

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A-C

D-F

G-I

J-L

M-O

P-T

U-Z

PUCEST® protect GmbH

The Enterprise

P 0001

History

The company PUCEST® protect GmbH evolved from firm with one owner Detlef Bauer and has more than 30 year service experience in the area of ready-mix concrete mixing devices.

The owner Detlef Bauer developed in this period the entire line of anti-wear products and now he shares with his son Marco Bauer the entire technical knowledge.

Since 2000 PUCEST® protect has realigned its profile through its own innovations in the field of innovative wear protection systems

Today PUCEST® protect GmbH is a private medium-sized company with ca. 30 employees.

Service

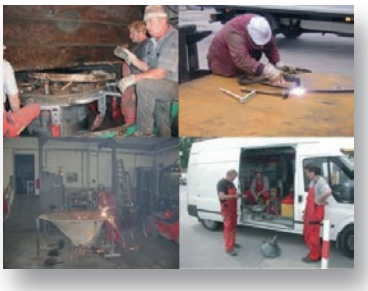
Mixing and conveying system service

Maintenance / servicing

All maintenance and repair works are performed on your equipment and peripherals.

Repair / Installation Service

Well-equipped installation teams carry out all mechanical and electrical repair works.
Also in 24hr emergency service.



Mixer optimization

Optimization of your mixers, so that mixing time, emptying time and mixing results are being improved.

Wear protection / linings

Installation of PUCEST® wear protection linings and customized solutions is also performed.

New construction and upgrade

Except services related to mixing techniques and sand and gravel primary conversion whole plant modifications, relocations, and removals are carried out.
Full-service, including commissioning and trainings for staff, is obvious.

Seminare and Training

Seminars on meaningful use of anti-wear materials are organized
in your office or at our place.

What causes wear and tear, how is it treated. Comparison of wear protection materials as well as the latest generation materials presentation: PUCEST® and composite materials (composites).

Practical part: processing, installation, maintenance of different materials.

Product- and Service offering

The products and services offered by PUCEST® protect are directed to constructions materials industry manufacturing companies (concrete, cement, stones and ground). Core competencies are wearing protective solutions.

The solutions are offered to wear on the one hand standard components and on the other hand we also offer customized wear protection solutions that result from specifications and also after consulting with technical firm service. The products offered are made from PUCEST®, steel or iron carbide, depending on the customer requirements.

In addition to the products a wide range of services for production facilities are offered, for example device (De-) assembly, maintenance, as well as defect repair of any kind.

PUCEST® products from plastics are characterized by excellent mechanical properties and achieve excellent lifetimes.

The ongoing new wear protection solutions testing under daily use conditions is an essential aspect of the PUCEST® protect quality standards.

Modeling and Casting

All wearing parts and panels of the PUCEST® protect range are made on our factory in Germany.

Through the internal form manufacturing all the necessary forms are
produced with high quality.

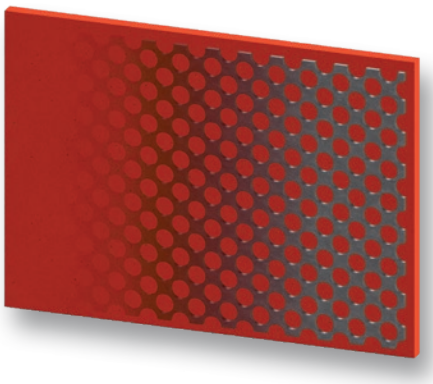
We can be flexible and follow different customer requests that are being received.

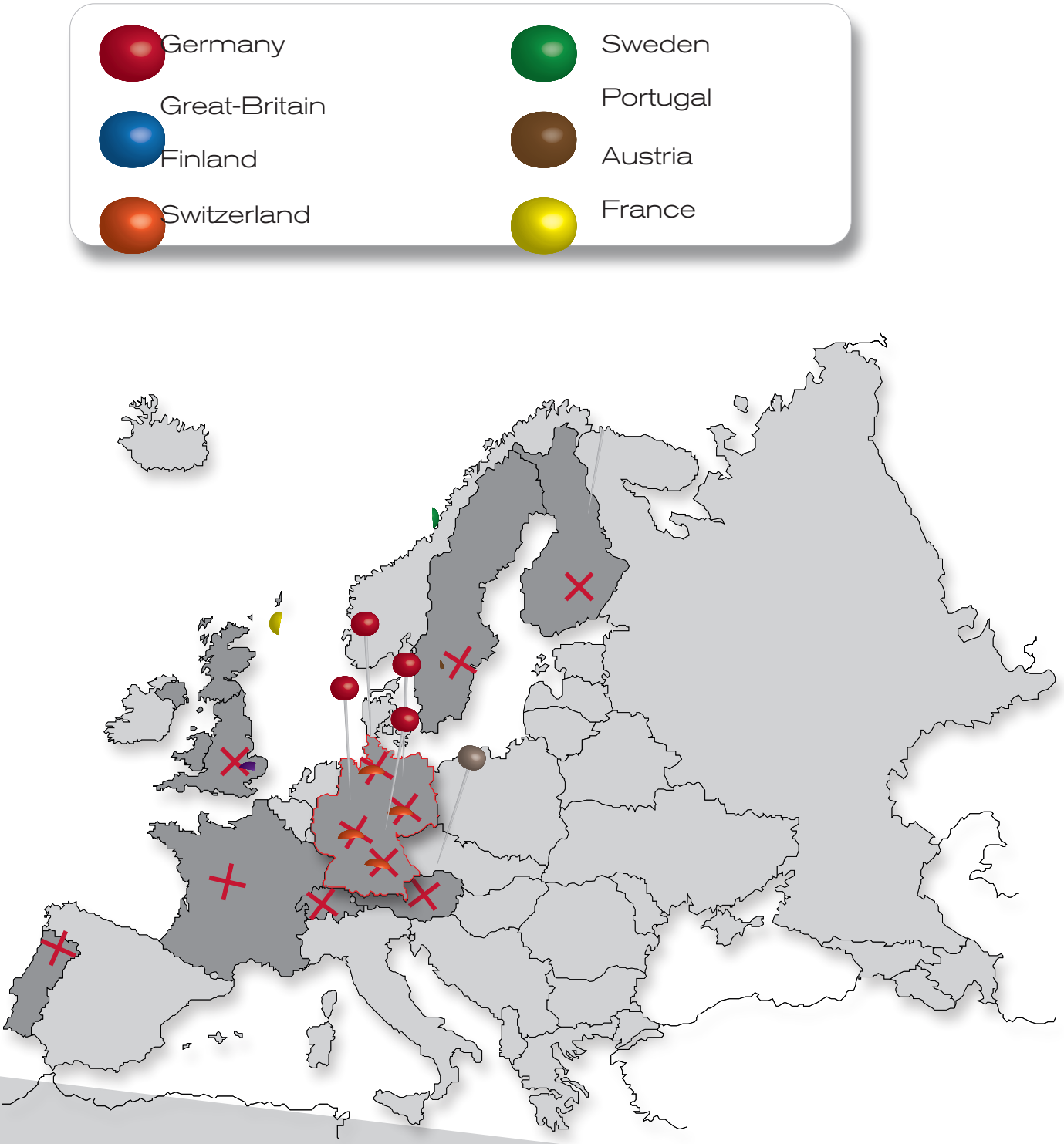
Multitalented PUCEST®

Through years of research the recipe for PUCEST® extreme wear applications has been optimized.
PUCEST® replaces increasingly steel, ceramic, PVC or rubber in wear protection. The reason is that the development potential of traditional materials is already in large measure exhausted.

In comparison PUCEST® shows a number of advantages:

- repairable (possibility of repair)
- good abrasion resistance
- high elasticity
- resistant to moisture
- resistant to oils and fats
- very high impact strength
- very good weather resistance
- very high mechanical strength




Germany
Great-Britain
Finland
Switzerland
Sweden
Portugal
Austria
France

Memo

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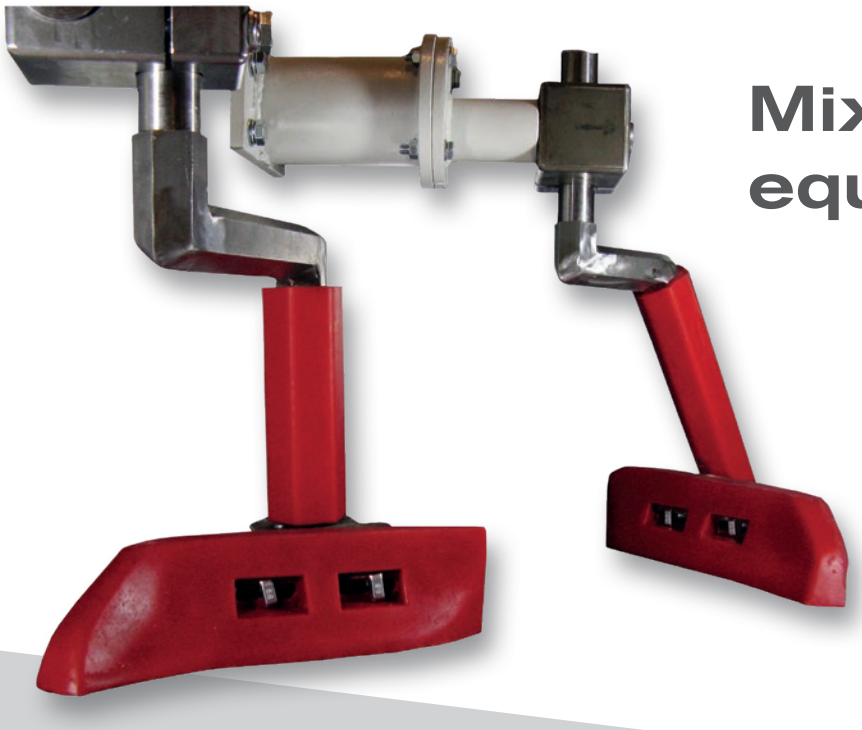
PUCEST® protect GmbH

Wear protective equipment



Mixing equipment

P 0002

PUCEST® hopper housing

Discharge hopper as a closed device with or without rod basket.

Pre-rolled hopper segments to be screwed.

Extremely wear resistant housing for discharge hopper is reparable at any time using PUCEST® Tix. Housing has very good sliding properties, it is insensitive against oil and fats.

All sizes and designs are available, we offer custom production.

PUCEST® discharge hoses

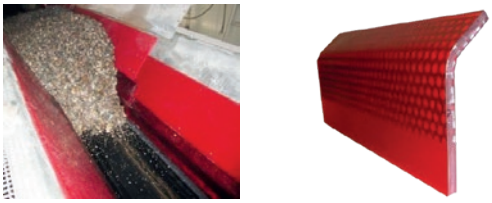
Discharge hoses made of PUCEST®

- All lengths, diameters and thicknesses
- Conical designs
- Resistance to separation means
- Extremely resistant to abrasion
- Very good sliding properties
- Weatherproof
- Highly flexible

Also available as dual-line (soft inside, hard on the outside),but:

-Poor ductility and thus there is a risk of stopping.

PUCEST® material directional elements

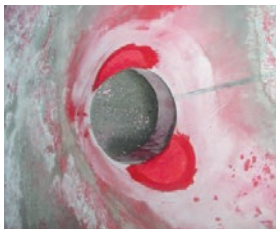


The PUCEST® material directional elements for conveyors protect the cornering of the tapes and ensure a steady flow of material.

It is a combination of PUCEST® sheets with and without a perforated plate. Perforated plates are used for attachment and stabilization. The pure PU-part has through its tension a light contact with the conveyor belt and it is self-adjusting, so that no material falls down to the left and to the right.

The wear protection can be combined together with other PUCEST® panels with any height and length

PUCEST® TIX Spachtelmasse



PUCEST® Tix was developed especially for the repair of worn PUCEST® wear protection systems.

Conventional wear solutions made it usually necessary to replace the entire wear surface by low tear and wear. Since PUCEST® Tix was developed this is no longer required, because damaged spots can be repaired.

Wear-resistant repair putty

PUCEST® UNIVERSAL mixing arm

Torsion mixing arm for the conversion of plate mixers.

All adjustments can be performed from outside,rotor lid should no longer be opened.

Universal mountable on each plate mixer

PUCEST® mixing tools

PUCEST® - mixing tools are available in the form of shovels, arm protectors, clearing capacity and scrapers for each type of mixer.
All PUCEST® - mixing tools convince users thanks to its extremely high wear resistance and above-average service life. Another advantage of PUCEST® - mixing tools is in their specific elasticity: mixer bases and housings are protected when using of PUCEST® - mixing tools, since the material is optimally adapted to the surface without scratching it.

Mix! Do not push!

With the PUCEST® Universal set of blades it is suitable for each type of plate mixer

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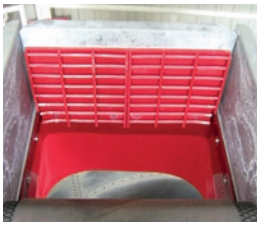
PUCEST® hard metal composite mixing tools

PUCEST® mixing blades made of hard metal composite material are designed for extreme requirements and higher than average demands on wear resistance and length of life. The blades are attached to the outer edges with carbide inserts, and additional wear is ensured through a zone provided with cast carbide grains. Carbide grains make up about a half of the wear volume. Neither platelets nor grains break out over time.

PUCEST® - mixing tools made of hard metal composite impress with the excellent working durability and long-term constant mixed results.

PUCEST® baffle plates



Baffle plates for transfer points, with pocket buffer or with sawtooth profile, depending on requirements.

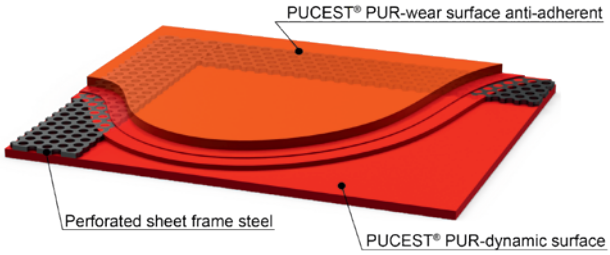
PUCEST® PUR Do it yourself spray system

The PUCEST® PUR spray system is an innovative solution to protect different undergrounds easily from wear. Surfaces can be coated with the PUCEST® PUR spray system cartridges quickly and easily with polyurethane, so that your surface coating is seamless and professional.

Investment costs are clearly under 1,000 €

Available with 1.5 kg 85°/95° Shore cartridges
Available with 0.6 kg 85°/95° Shore cartridges

PUCEST® hybrid-plate
self-cleaning and anti-adherent



A self-cleaning wear plate, in frame shape, composed of different PUCEST® PUR Shore hardness values.

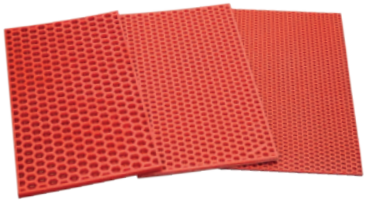
The self-cleaning properties lead to an even more smooth application without long standstill times.

Being in use, for example as lining of a vibrating chute, the properties of the hybrid plate result in an optimum conveying result.

PUCEST® Impulse plate

Up to now material deposits have been prevented or corrected with "shakers". This principle resulted from a "knocking" or stroke effect against the static construction or lining whereby serious damages arose in the course of time, which could only be repaired with high effort. In contrast, the flexible PUCEST® impulse plate acts with impulse movements. Due to the impulse movements, material deposits are "blasted away". Thereby no stroke effect against the static construction or lining occurs.
At the same time, the PUCEST® impulse plate offers the same advantages as the "normal" PUCEST® wear plates do, for example quick exchange or extremely high wear resistance.

PUCEST® Hexagon-Protector-Series



Principle: Some of the conveyed material is collected in the hexagon formed catch trays of the impact (baffle) protector and thereby forms wear protection with the conveyed material.

The wear effect is slowed significantly.

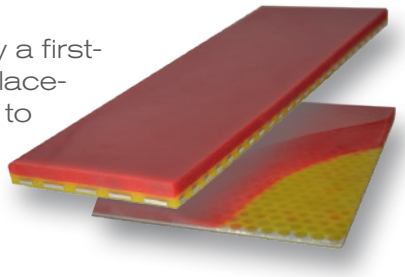
Another advantage of the impact plate is given by its elasticity. Coarse grained material (for example, gravel) does not split on impact.

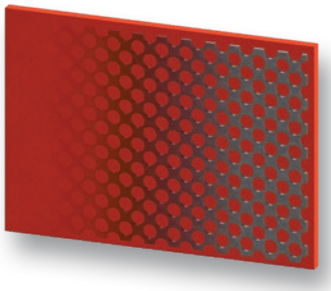
Advantages are also the easy Handling and the assembly ability in combining with PUCEST® plates, PUCEST® Tix or the screw connection with the lining of feed hoppers, dosage shutters, vibrating chute, mixer floors and discharge channel.

The PUCEST® Hexagon-Protector, suitable for a grain size of 0 to 8 mm, there is also in that XL version for a grain size of 0 to 16 mm and in the XXL version for a grain size of 0 to 32 mm.

PUCEST® plates with steel or aluminium
perforated sheet insert

Also as a signal plate available. This plate offers you not only a first-class wear protection, but signalizes also the upcoming replacements in due time, especially at positions where it is difficult to see the thickness of the lining.





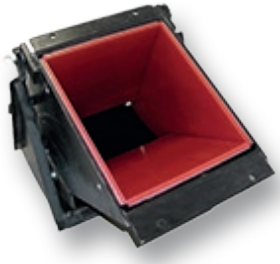
Plates in standard shore hardness 65 ° and 85 ° Shore A
Shore hardness are possible between 25 ° and 90 °

Dimensions	2.000 x 1.000 mm	2.500 x 1.250 mm	3.000 x 1.500 mm
Thickness	8 - 100 mm	8 - 100 mm	8 - 100 mm
It is possible to make cuts per customer request			

PUCEST® wear plates with perforated sheet metal inserts were developed as wear protective system for container and funnel housing. The plates are screwed together and can easily be incorporated independently as they can easy be cut, drilled and bent through the perforated moulded sheet metal.

The panels can be folded and rolled.

Later possible washouts may be repaired at any time using PUCEST® TIX.
The sheets can be delivered using perforated steel sheet device or using light and by hand deformable aluminum plate devices.



PUCEST® Properties

Degree of Hardness	DIN 53 505	ShoreA	55	65	85	TIX
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**	**41,9**
Tensile strength	DIN 53 504	N/mm^2	24,6	32,1	47,8	...
Tear prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7	...
Elongation at tear	DIN 53 504	%	623	578	478	225
Rebound Resilience	DIN 53 512	%	50	50	43	...
Temperature range	from -30 ° to 80 °, max. during short time up to 100 °					

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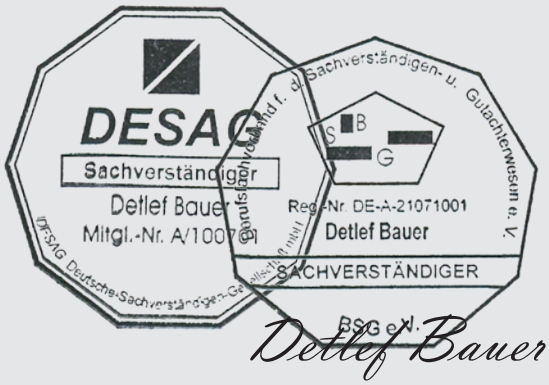
Material Certificate

Material Indication	PUCEST® 90-15mf	PUCEST® 85-15mf	PUCEST® 65-15mf	PUCEST® 55-15mf	PUCEST® 45-15mf	PUCEST® 25-15mf	PUCEST® TIX
abrasion DIN ISO 4649 mm^3	12,4	8,8	5,3	6,3	13,9	63,1	41,9
hardness DIN 53 505 Shore A	90	85	65	55	45	25	85 (±5)
tightness DIN 53 479 g/dm^3	1230	1230	1230	1230	1230	1230	1230
tensile strenght DIN 53 504 N/mm^2	45,2	47,8	32,1	24,6	25,0	6,6	
tear strenght DIN 53 504 N/mm^2	45,2	47,8	32,1	24,6	25,0		24,7
ultimate elongation DIN 53 504 %	538	478	578	623	609	630	225
tear-propagation resistance DIN ISO 34-1 N/mm	45,7	34,7	21,4	18,7	4,6	4,1	

The testing was made under room temperature and normal relative humidity.The values are guide-line values. The above mentioned values cannot give a representation of characteristics, they are made under laboratory conditions.

The use of our products is outside of our control and will not release the costumer to make his own test for his specific application.



proved by:
Phoenix Compounding
Technology GmbH - Prüfwesen

stamp/ signature

Note on processing

A good machining of the harder PUCEST® -materials is subsequently possible to achieve tighter tolerances than according to M3 DIN 7715. The machining can take place through drilling, rotating, milling, sawing, grinding or cutting. The most important fact in this connection is to pay attention to razor-sharp cutters and to choose as little small-angles as possible.

The machining of the harder types (from 85° Shore A) is easier than the machining of the softer types. As PUCEST® opposes a big resistance against abrasion, it also tries to resist or to evade the tool cutter.

Longitudinal rotating

shore hardness	cutting speed	feed mm/ rotation	tool material	tool angle alpha/beta/ gamma	surface quality Rt (µm)
65	300-500	0,1 - 0,2	SS-Stahl	12 / 53 / 25	100
80	300-500	0,1 - 0,2	SS-Stahl	12 / 53 / 25	50
95	100-150	0,1 - 0,2	SS-Stahl	12 / 53 / 25	20

Cutting-off

Tools which are similar to knifes and which are also used in the wood treatment are most suitable. The tool angle should amount to 15°. To achieve a fine surface, it is recommended to use drilling water (emulsion) or oil for the lubrication and the cooling.

Drilling

Here you also have to pay attention to razor-sharp cutters. Drills which are common in the metal working industry can be used.

cutting speed v =	40-50 m/min
feed s =	0,01-0,03mm/Umdr.

Only very hard materials can be treated with a bigger feed. The boreholes in the tighter polyurethane-types are usually 4-5% smaller than the drill diameter. The usage of drilling water (emulsion) is necessary.

Milling

With circumferential speeds of 200-400 m/min, surface qualities as stated below can be achieved with fast milling cutters.

Tools with minor tooth numbers (2 or 3) are suitable to guarantee a good chip removal.

The following tool angles are recommended:

clearance angle =	10°
rake angle =	25°

Bonding

Basically, good bonded joints between PUCEST® and other materials can be achieved. The most common joint is PUCEST® together with metal. You have to stick to the processing advices of the PUCEST® adhesive when bonding.

Grinding

For a better stability of the sheet material which shall be bonded, the material has to be roughened with coarse-grained grinding fibre discs on grinding machines.

Welding

The welding of sheet goods can only happen with our PUCEST® WGS-PUR and our flux cored wire PUCEST® WGS-FD.

Cutting/Sawing

The machining cutting methods are most suitable for PUCEST® solid material as well as for reinforced perforated plates.

Water jet cutting

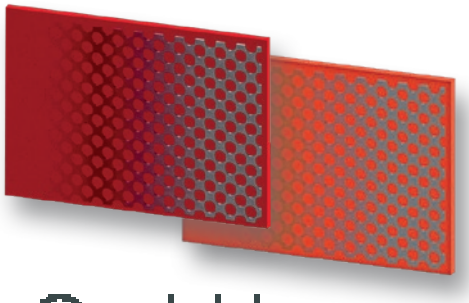
The PUCEST® plates can also be perfectly cut to size with water jet cuttings. The following experience values concerning the cutting rate have to be considered.

Plates up to 12 mm cutting speed max: 550-580 mm/min

Plates 12 – 20 mm cutting speed max: 500/mm/min

Filling

The PUCEST® plates can be filled or grouted after their grinding (like described in “processing advices PUCEST® TIX”).



PUCEST® protect GmbH

PUCEST® panel and PUCEST® A Ha plate with perforated sheet metal insert Application and installation

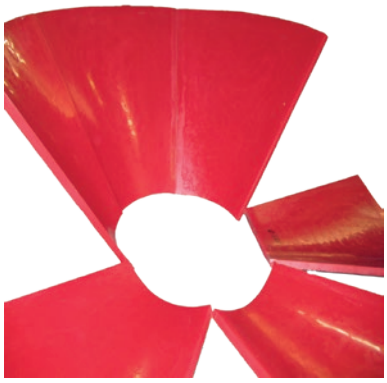
Available types

Anti-microbe
Anti-Static
with steel, aluminum, or stainless steel sheet insert
- Steel back or steel core is also available as Magnopur® version

P 0004

Installation example

Here we can see installation of the lining for a hopper with PUCEST® - wear plates with perforated sheet insert:

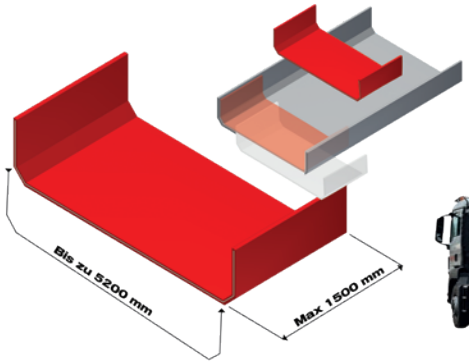


▲ Hopper segments were cut and made ready.

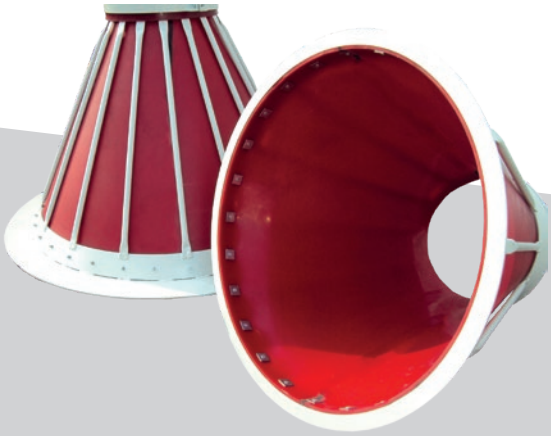
▲ The liner was fitted into the hopper.

Assembly example

Application examples for use of folded plates PUCEST®



Other examples of the PUCEST® sheets application



Finishing and assembly
PUCEST® plate with perforated sheet insert

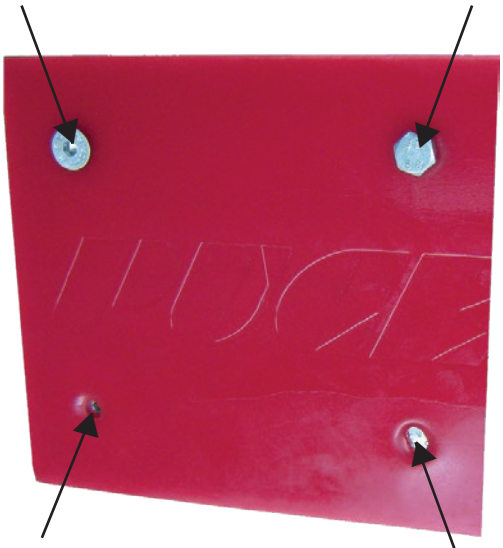
PUCEST® panels can be cut with any jigsaw to any form and thus be screwed as a lining.

Rolling or canting of the plates for the desired applications is also not a problem. For example, segments rolled for hoppers, bowls for pipes, or folds for ribbon panels. Lining panels accommodated into the form are simply screwed to the base.

Thanks to the threaded connection no bare metal cleaning of the lined device part is necessary.

Countersunk screw with hexagon socket not screwed up yet

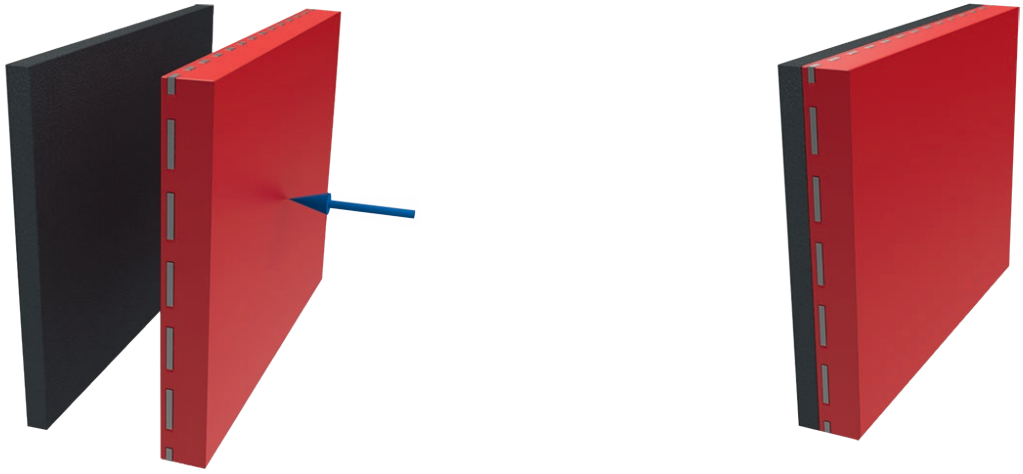
Hexagonal screw not screwed up yet



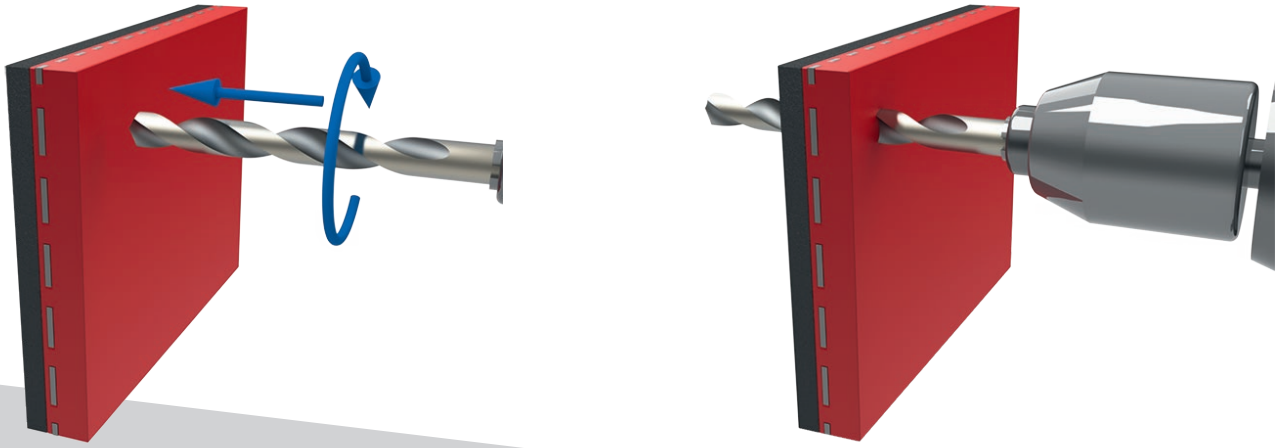
Countersunk screw with hexagon socket screwed up

Hexagonal screw screwed up

Put the PUCEST® wear protection plate onto the component part



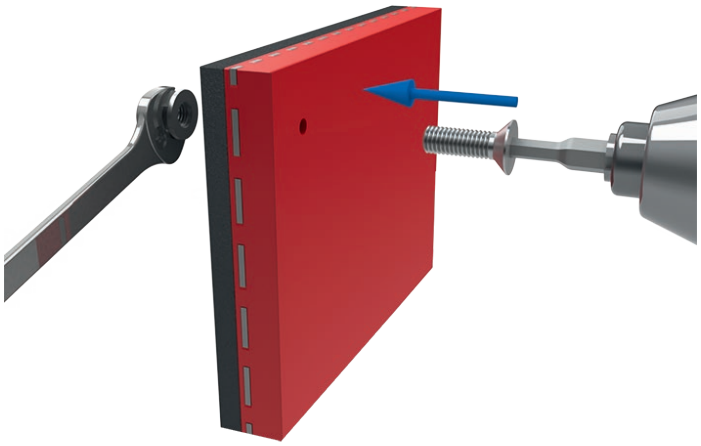
Drill through the PUCEST® wear protection plate and the component part (diameter of bore 8,5 mm)

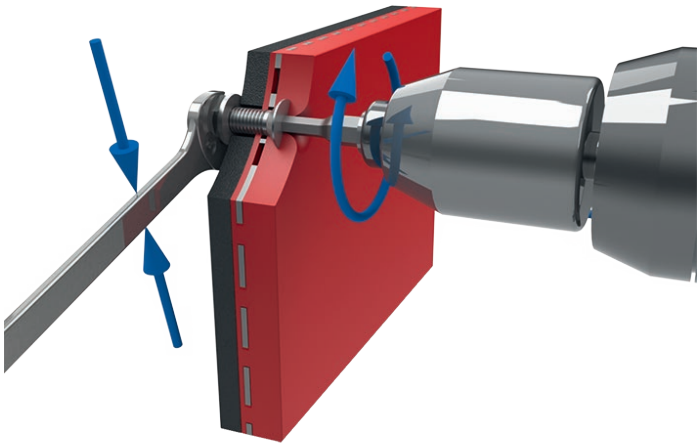


Assembly of wear protection plates

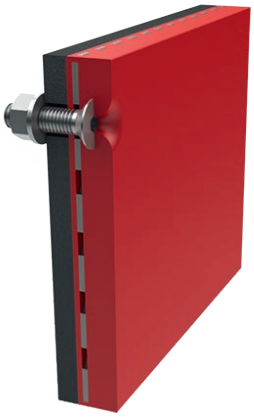
PUCEST® protect GmbH

Screw the PUCEST® wear protection plate together with the nut and the washer with countersunk head screw M8, which is held behind the component part.



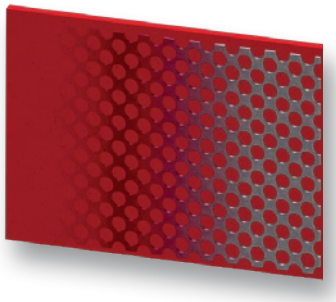


The screw “disappears” in the PUCEST® material, so that it is no longer necessary to choke or close the connection to protect it from wear.



PUCEST® panels with perforated insert

With steel or aluminum perforated sheet insert



Plates in standard shore hardness 65 ° and 85 ° ShoreA.
Shore hardness is possible between 25 ° and 90 °

Dimensions	2.000 x 1.000 mm	2.500 x 1.250 mm	3.000 x 1.500 mm
Thickness	8 - 100 mm	8 - 100 mm	8 - 100 mm
It is possible to make cuts per customer request			

PUCEST® Properties

Degree of Hardness	DIN 53 505	ShoreA	55	65	85	TIX
Abrasion	DIN ISO 4649	mm^3	6,3	5,3	8,8	41,9
Tensile strength	DIN 53 504	N/mm^2	24,6	32,1	47,8	...
Tear prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7	...
Elongation at tear	DIN 53 504	%	623	578	478	225
Rebound Resilience	DIN 53 512	%	50	50	43	...
Temperature range	from -30 ° to 80 °, max. during short time up to 100 °					

Reparable with PUCEST TIX® Filler Set

PUCEST®Tix was especially developed for the repair of worn PUCEST® - wear protective systems.

Conventional wear solutions made it usually necessary to replace the entire wear surface by low tear and wear. Since PUCEST® Tix was developed this is no longer required, because damaged spots can be repaired.

User-friendly two-component repair system has been used for 10 years in the Clinical practice.

- Rapid repair of damaged housing
- Short downtimes
- Very user-friendly processing
- Extremely resistant to wear, even after repair!

Processing and application step by step

Position in need of repair

grind

clean

mask generously

spackle

perfectly mended

Memo

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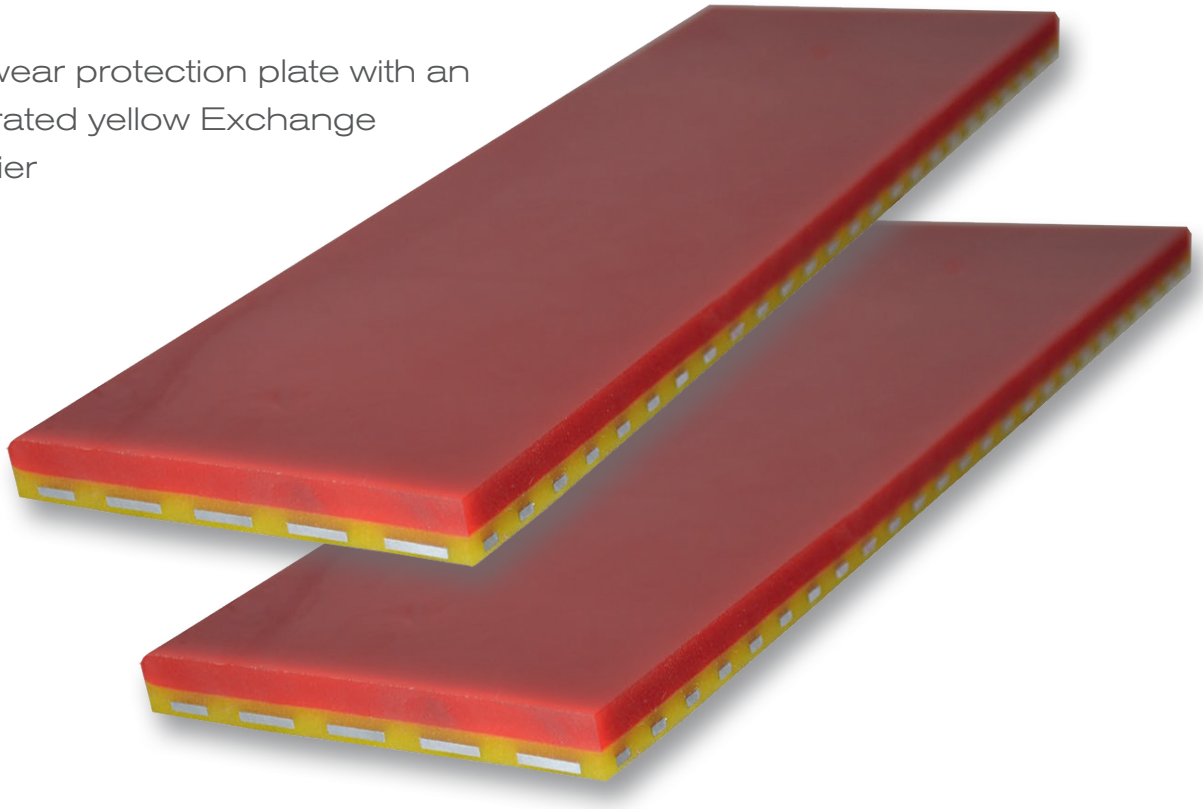
PUCEST® protect GmbH

signal wear protection plate

The perfect wear monitoring

The wear protection plate with an integrated yellow Exchange signifier



Stop with unplanned plant shutdowns and costs for standstills!

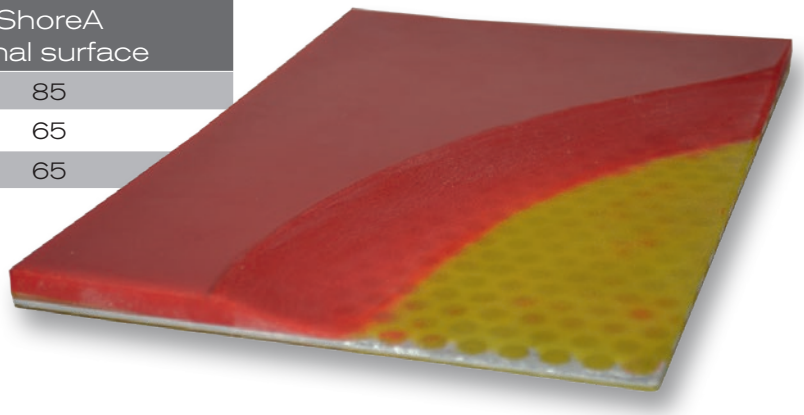
Our innovative development offers you not only a first-class wear protection, but signalizes also the upcoming replacements in due time, especially at positions where it is difficult to see the thickness of the lining.

- no more unforeseeable plant shutdowns
- long standing times due to the high wear resistance
- good abrasion resistance
- resistant against humidity, oils, fats, mixer protectors
- low temperature sensitivity
- it is no problem to mill, roll or edge the plates for the desired purpose
- quick exchange of worn out plates
- easy screwing with the base plate

Technical properties

Material versions

Hardness degree DIN 53 505	
Shore A wear surface	ShoreA signal surface
85	85
85	65
65	65



Dimensions

Total thickness (mm)	Thickness of wear surface (mm)	width (mm)	length (mm)	color
12	7	1000	2000	red / yellow
12	7	1250	2500	red / yellow
12	7	1500	3000	red / yellow
15	10	1000	2000	red / yellow
15	10	1250	2500	red / yellow
15	10	1500	3000	red / yellow
20	15	1000	2000	red / yellow
20	15	1250	2500	red / yellow
20	15	1500	3000	red / yellow

Pre-cuts according to the desires of the client are possible

With steel-, aluminum-, or stainless steel-perforated sheet insert. Also available as multilayer, with double 4 mm perforated sheet insert. Size and dimensions according to the desires of the client.

Material properties

Degree of Hardness	DIN 53 505	ShoreA	85	65
Abrasion	DIN ISO 4649	mm^3	8,8	5,3
tensile strength	DIN 53 504	N/mm^2	47,8	32,1
Tear prolongation resistance	DIN ISO 34-1	N/mm	34,7	21,4
elongation at break	DIN 53 504	%	478	578
rebound elasticity	DIN 53 512	%	43	50
temperature range	from -30° to 80°, max. during short time up to 100°			

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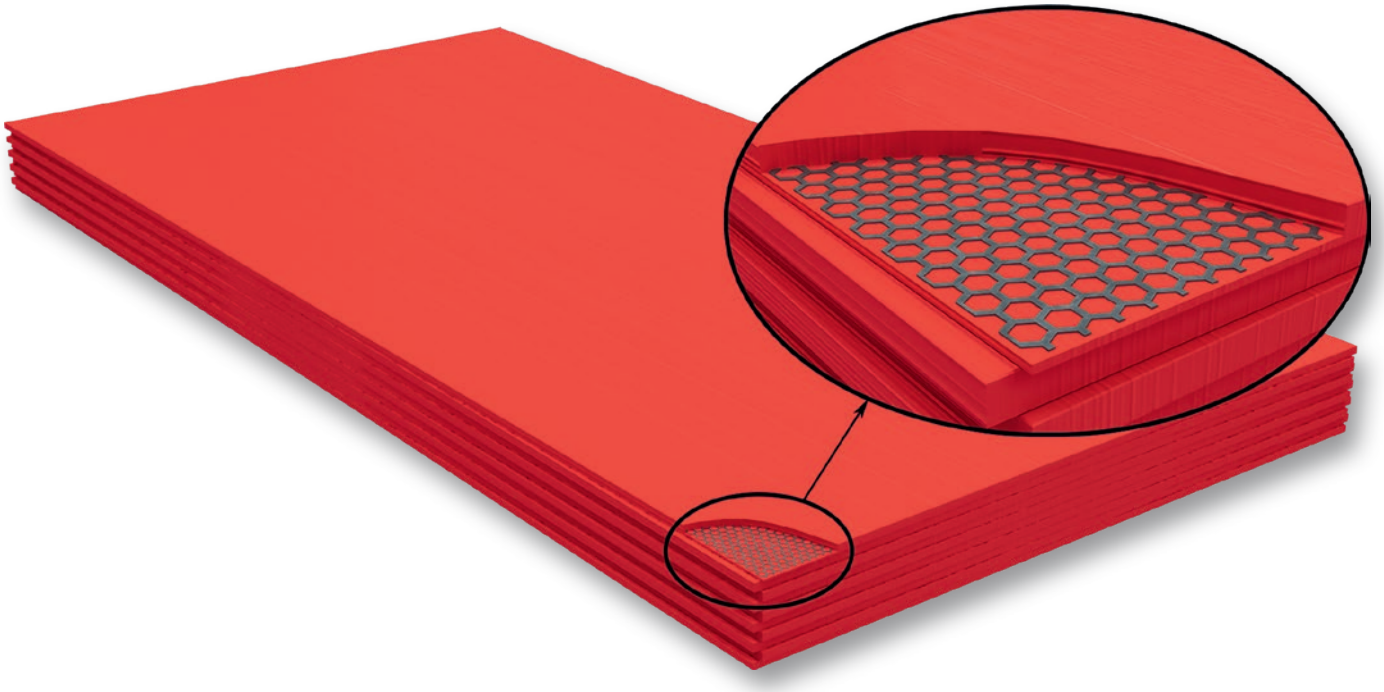
Flex-plate

The flexible wear protection with special insert



- Easily formable
- Dimensionally stable (without folding)
- Flexible

Application example

Reconstructed screw conveyor for slag sand and tuff in a slag sand dryer

After the reconstruction of the screw conveyors to PUCEST flex-plates:

- The wear at the screw shaft is lower
- The material does not get stuck at the hutch of the screw; therefore the screw does not swing anymore
- The screw conveyor has not to be cleaned
- Increased performance of approximately 20 %!!

Material versions

Total thickness (mm)	Thickness of hexagon perforated sheet (mm)	width (mm)	length (mm)
10	1,5	1000	2000
12	1,5	1000	2000
15	1,5	1000	2000

Cuts according to the desires of the clients are possible

Material properties

hardness degree	DIN 53 505	ShoreA	85	65
abrasion	DIN ISO 4649	mm^3	8,8	5,3
tensile strength	DIN 53 504	N/mm^2	47,8	32,1
tear prolongation resistance	DIN ISO 34-1	N/mm	34,7	21,4
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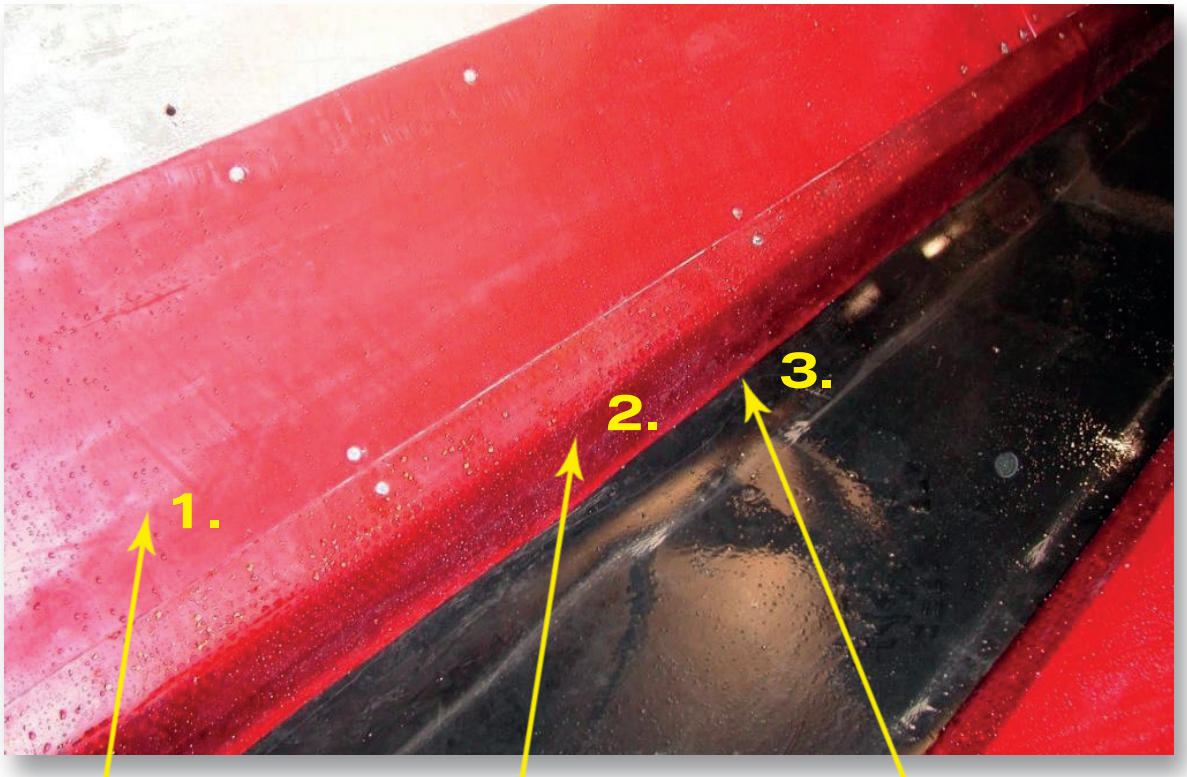
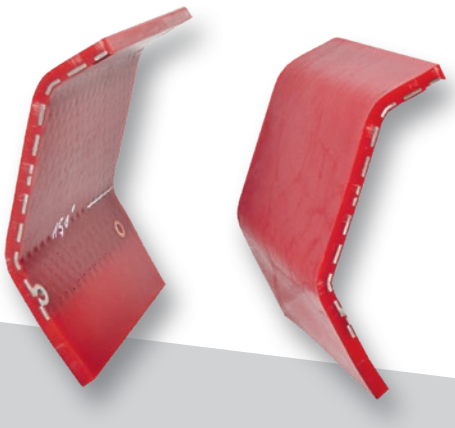
material directional elements
for conveyors

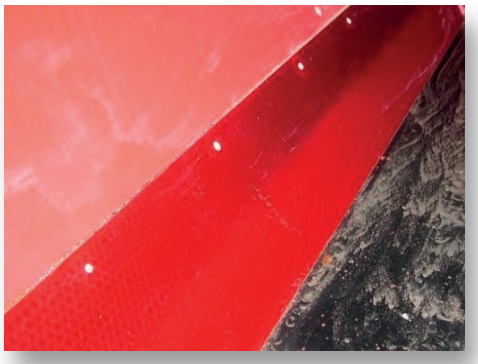


PUCEST® wear plates in 55°-90° shore hardness (material flow)

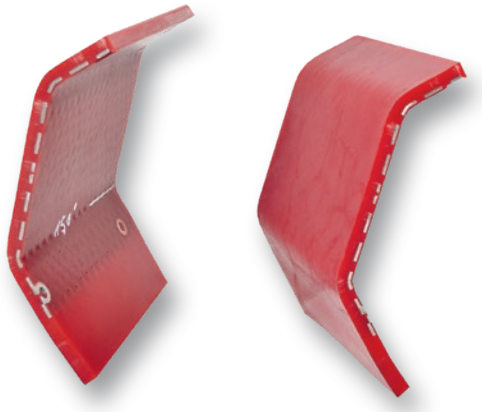
PUCEST® wear plates with cast-in metal reinforcement for fastening (adjusting)

Adherent PUCEST® wear streamlining without metal insert for the protection of the lining of the conveyor belt





PUCEST® material directional elements for conveyors



The PUCEST® material directional elements for conveyors protect the cornering of the tapes and ensure a steady flow of material.

It is a combination of PUCEST® sheets with and without a perforated plate. Perforated plates are used for attachment and stabilization. The pure PU-part has through its tension a light contact with the conveyor belt and it is self-adjusting, so that no material falls down to the left and to the right.
The wear protection can be combined together with other PUCEST® panels with any height and length

Example of use

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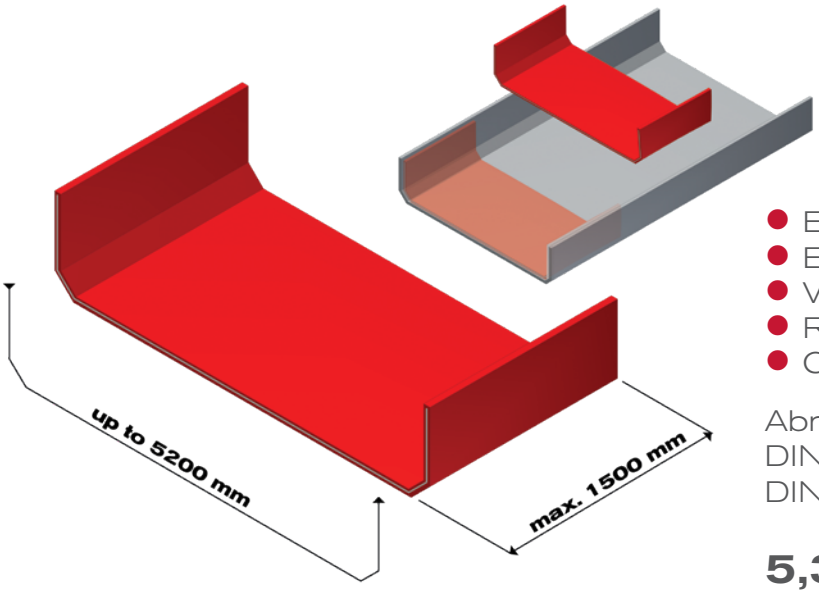
PUCEST® protect GmbH

The repairable
body liner

P 0007

The advantages of PUCEST® body liner

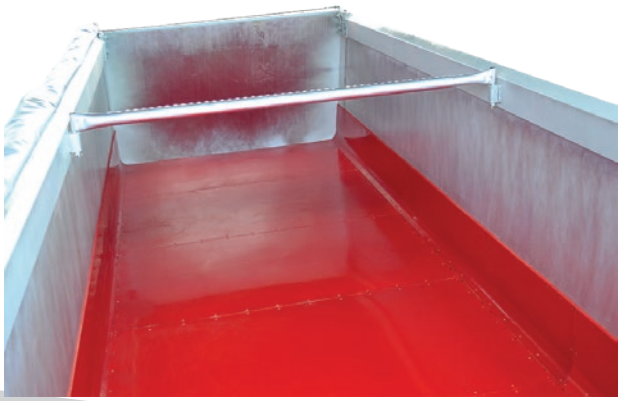


- Easy installation
- Extremely wear resistant
- Very good sliding properties
- Reparabel durch PUCEST® TIX
- Custom producing

Abrasion according to
DIN ISO 4649
DIN 53 516

5,3mm³

Our recommendation: PUCEST® 65 ° Shore in 15mm



The repairable PUCEST® body Liner can be delivered in any desired design. The lining consists of perforated plate segments that can be screwed, edged and also can be rolled. Later possible washouts may be repaired at any time using PUCEST® TIX.

The sheets can be delivered using perforated steel sheet device or using light and by hand deformable aluminum plate devices

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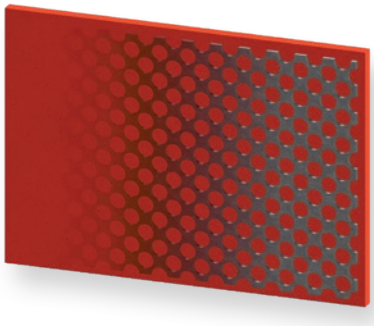
PUCEST® sheets

PUCEST® panels with perforated sheet insert

With steel or aluminum perforated sheet insert

Plates in standard shore hardness 65 ° and 85 ° Shore A
Shore hardness are possible between 25 ° and 90 °



Dimensions	2.000 x 1.000 mm	2.500 x 1.250 mm	3.000 x 1.500 mm
Thickness	8 - 100 mm	8 - 100 mm	8 - 100 mm
It is possible to make cuts per customer request			

PUCEST® panels can be cut with any jigsaw to any form and thus be screwed as a lining.

Rolling or canting of the plates for the desired applications is also not a problem. For example, segments rolled for hoppers, bowls for pipes, or folds for ribbon panels.
Lining panels accommodated into the form are simply screwed to the base.

Thanks to the threaded connection no bare metal cleaning of the lined device part is necessary.

PUCEST® Properties

Degree of Hardness	DIN 53 505	ShoreA	55	65	85	TIX
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**	**41,9**
Tensile strength	DIN 53 504	N/mm^2	24,6	32,1	47,8	...
Tear prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7	...
Elongation at tear	DIN 53 504	%	623	578	478	225
Rebound Resilience	DIN 53 512	%	50	50	43	...
Temperature range	from -30 ° to 80 °, max. during short time up to 100 °					

PUCEST® TIX

PUCEST®Tix was developed specifically for the repair of worn PUCEST® - wear protective systems.

Conventional wear solutions made it usually necessary to replace the entire wear surface by low tear and wear. Since PUCEST® Tix was developed this is no longer required, because damaged spots can be repaired.

User-friendly two component repair system has been proven in practice for 15 years.

- **Rapid repair of damaged liners**
- **Short downtimes**
- **Very user-friendly processing**
- **Extremely resistant to wear, even after repair!**

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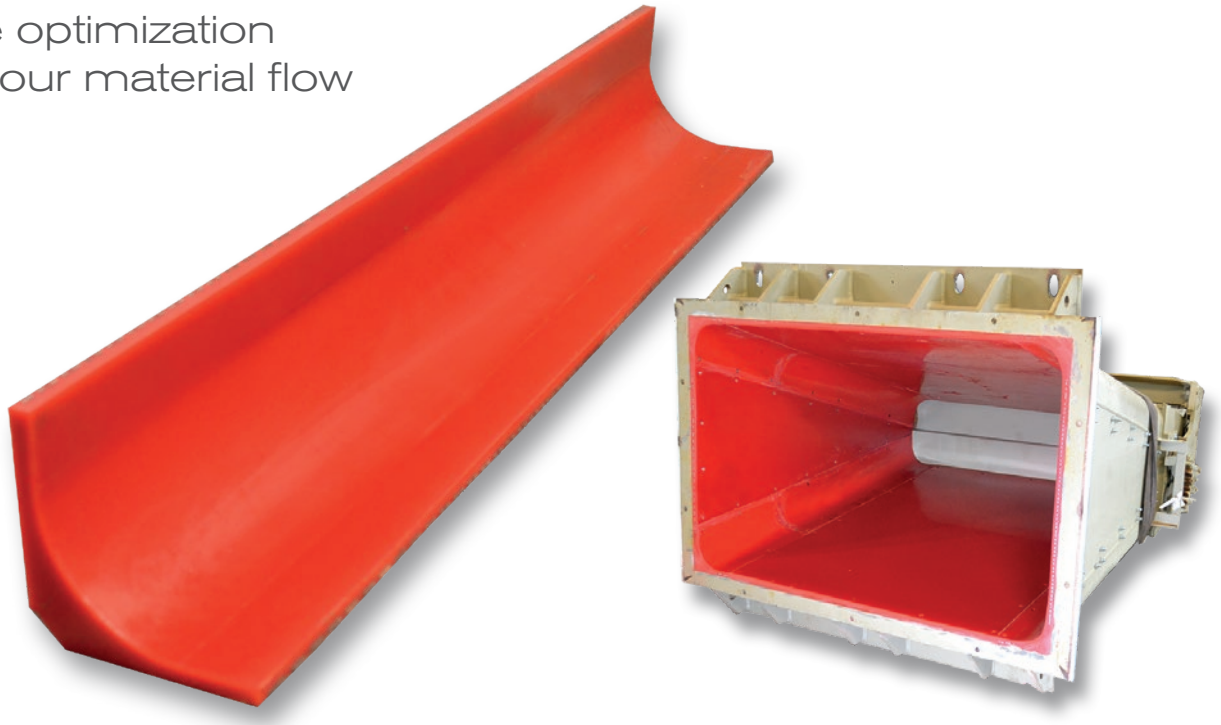
Round corner

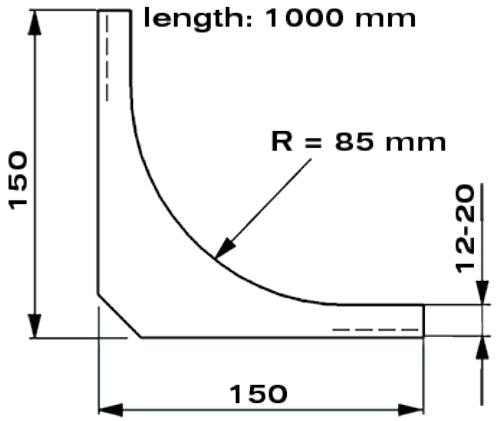
The optimization
of your material flow



The round corner of PUCEST® prevents the accumulation of material in the corners. Material is conveyed to the PUCEST® wear plaques, e.g. Hexagon-Protector.

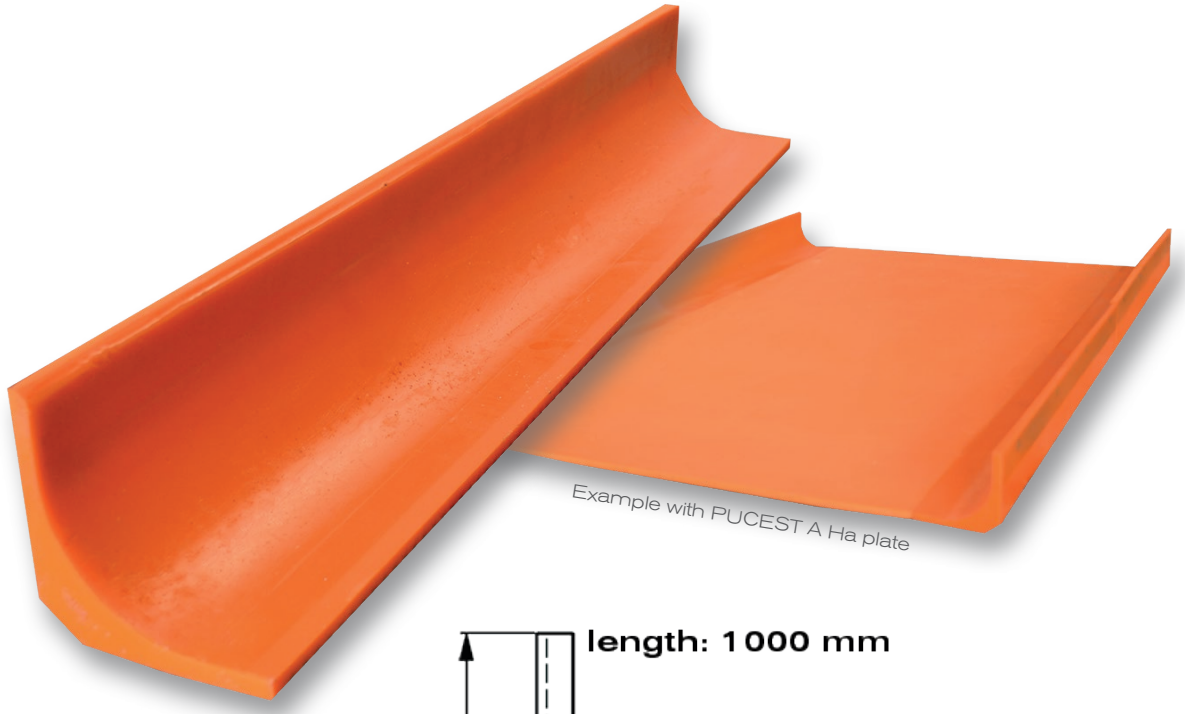
Advantages of the change to PUCEST®:

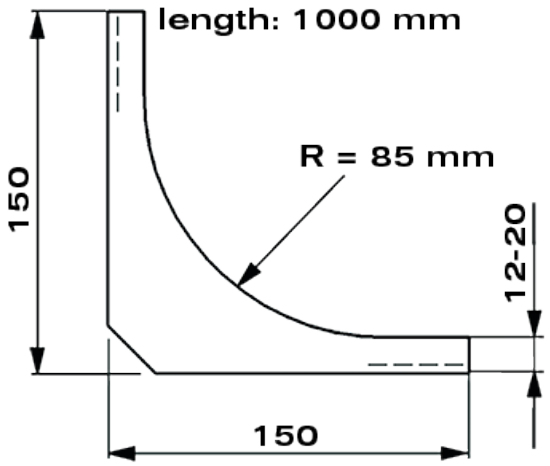
- Short idle times concerning the exchange of damaged lining parts
- Extremely wear resistant
- Coarse bulk goods (e.g. gravel) do not break into pieces when they bounce



Round corner A Ha

The anti-adherence-version





PUCEST® Properties

Degree of Hardness	DIN 53 505	ShoreA	55	65	85	TIX
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**	**41,9**
Tensile strength	DIN 53 504	N/mm^2	24,6	32,1	47,8	...
Tear prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7	...
Elongation at tear	DIN 53 504	%	623	578	478	225
Rebound Resilience	DIN 53 512	%	50	50	43	...
Temperature range	from -30 ° to 80 °, max. during short time up to 100 °					

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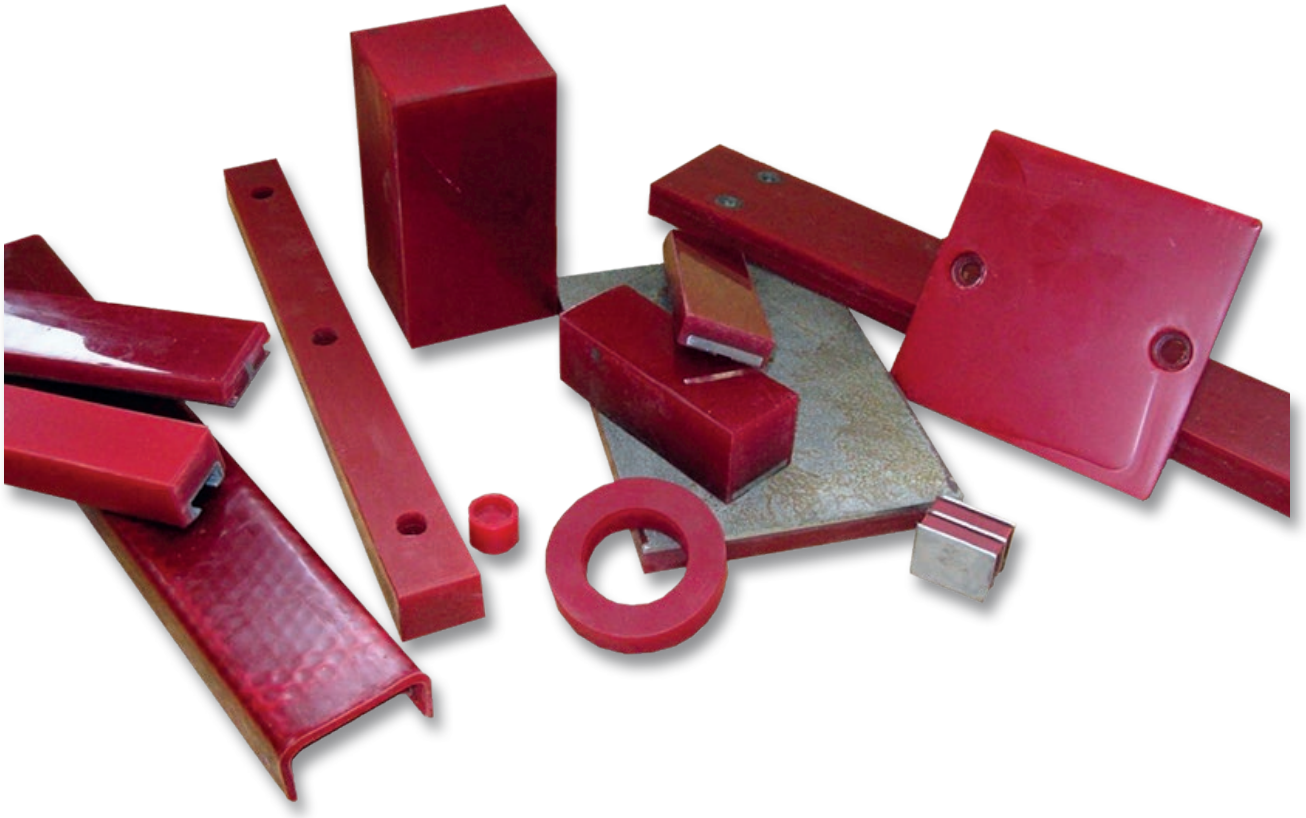
Vibrating housing

Benefits from changing over to PUCEST®:

- Short downtimes for the exchange of damaged housing parts
- Extremely wear resistant housing

PUCEST® wear protection parts

Almost all wear protection parts can be manufactured of PUCEST®. From grab bars and impact strips till buffers



PUCEST® Properties

Degree of hardness	DIN 53 505	ShoreA	55	65	85
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**
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Tear prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7
Elongation at tear	DIN 53 504	%	623	578	478
Rebound resilience	DIN 53 512	%	50	50	43

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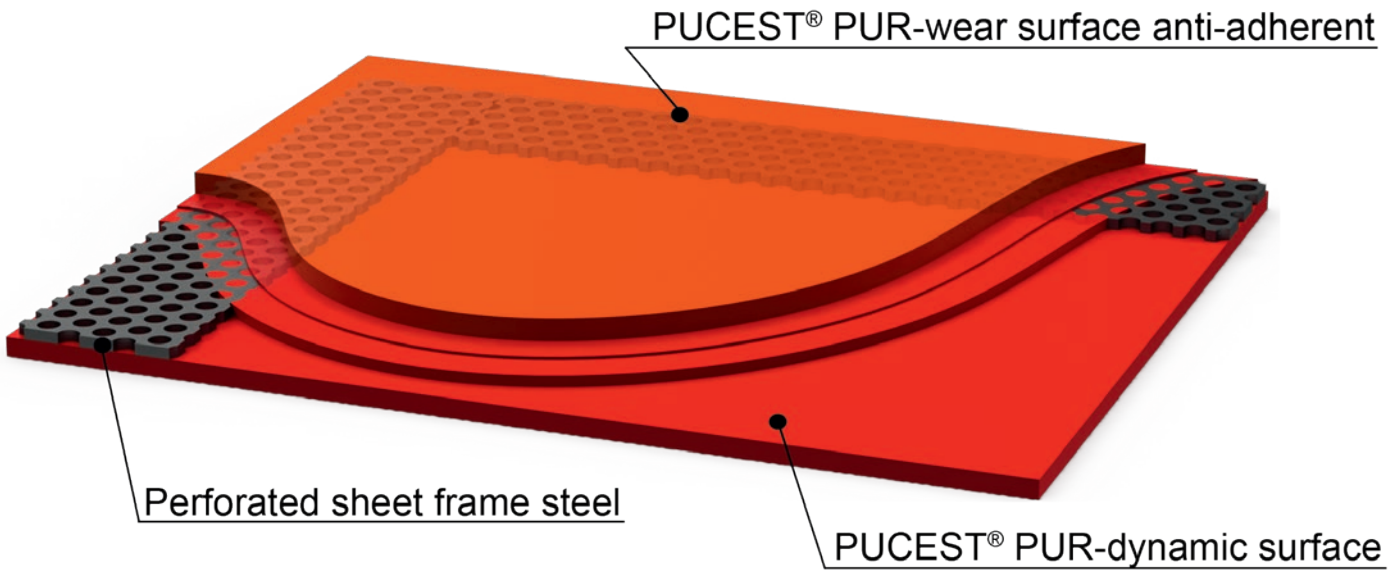
PUCEST® hybrid plate

self-cleaning and anti-adherent



A self-cleaning wear plate, in frame shape, composed of different PUCEST® PUR Shore hardness values.

The self-cleaning properties lead to an even more smooth application without long standstill times.
Being in use, for example as lining of a vibrating chute, the properties of the hybrid plate result in an optimum conveying result.

Ansicht 1
Conveyor chute with PUCEST® lining, after 7 months of permanent load

Ansicht 2
Conveyor chute with PUCEST® lining, after 7 months of permanent load

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Impulse plate

against insistent material deposits

Up to now material deposits have been prevented or corrected with “shakers”. This principle resulted from a “knocking” or stroke effect against the static construction or lining whereby serious damages arose in the course of time, which could only be repaired with high effort.

In contrast, the flexible PUCEST® impulse plate acts with impulse movements.

Due to the impulse movements, material deposits are “blasted away”. Thereby no stroke effect against the static construction or lining occurs.

At the same time, the PUCEST® impulse plate offers the same advantages as the “normal” PUCEST® wear plates do, for example quick exchange or extremely high wear resistance.

- Short standstill times for the exchange of damaged lining parts
- Extreme wear resistant lining
- Material deposits are prevented or corrected

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PUCEST® protect GmbH

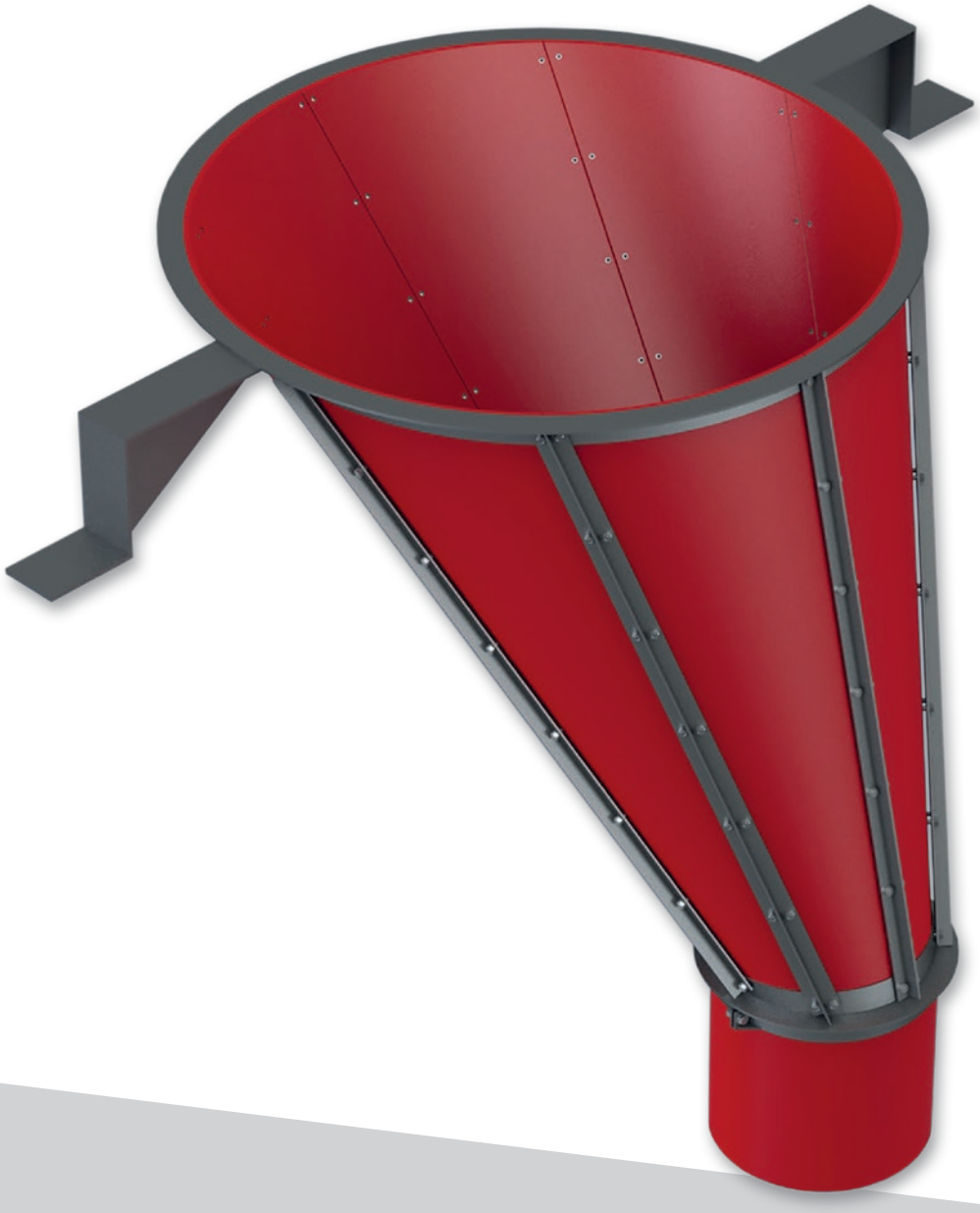
The complete

funnel construction

(rod construction)

The repairable

funnel linings

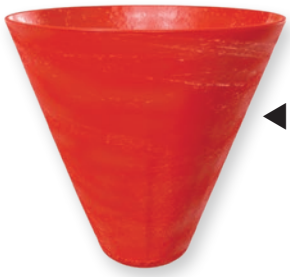


P 0012

Funnel linings in different versions

1. **Funnel lining made of PUCEST® plates with aluminum perforated sheet insert with individual segments.**

   Due to the integrated perforated sheet insert made of aluminum, the segments can be easily deformed manually, adapted to the funnel and screwed together. A later maybe necessary repair of a damaged position is recognizable through the emergence of the perforated sheet. It is by means of the PUCEST® TIX spackle overhauled quickly and cost-saving.



2. **Pre-rolled funnel lining**
   Funnel lining made of pre-rolled PUCEST® plates with perforated sheet insert made of steel.

3. **Funnel lining as closed, welded inlay according to the "filter paper principle".**

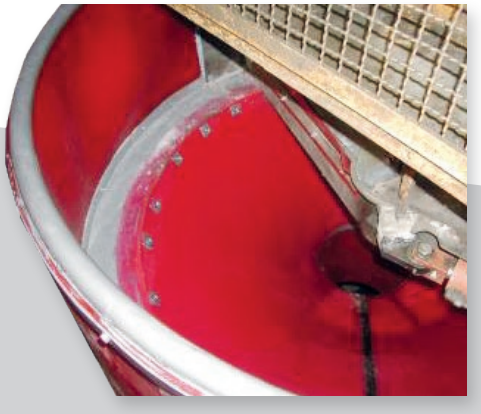
4. **Complete rod funnel with customized PUCEST® Inlay**

Application example

A PUCEST® discharge funnel in a customized holding

The aim: The discharge funnel was installed; the mixing plant is ready for use again.

A view inside of the installed funnel; the on-site mounted spray protection at the upper edge was also made of PUCEST®



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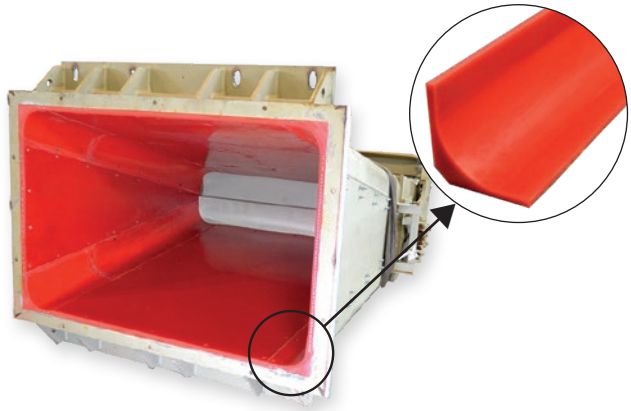
Further application examples

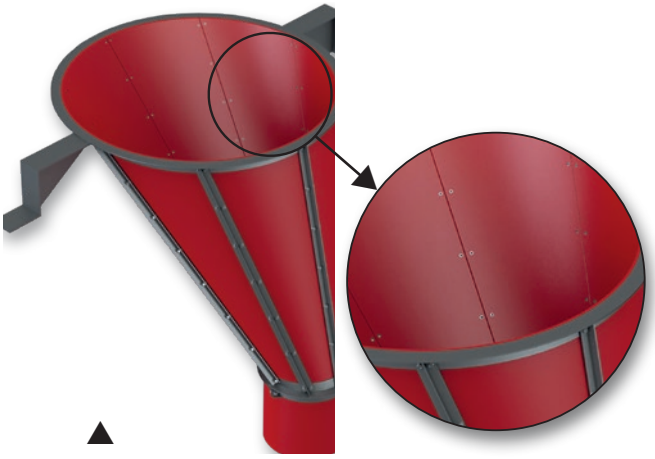
funnel lining consisting of individual segments with perforated sheet insert made of aluminum

funnel lining made of PUCEST® plates with perforated sheet insert and non-stick effect

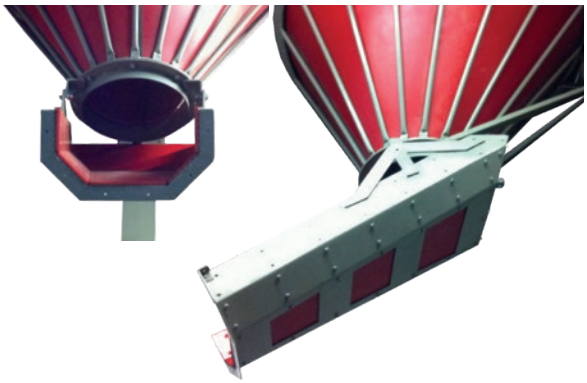


Funnel lining made of PUCEST® plates with perforated sheet insert and round corner. The round corner reduces adhesions.

PUCEST® collection funnel at a belt transfer point



rod funnel lining made of PUCEST® plates



rod funnel lining made of PUCEST® plates with loading chute and inlay

The PUCEST® funnel linings can be repaired at any time from your own staff by means of the PUCEST® TIX spackle without big effort.

PUCEST® Properties

Degree of Hardness	DIN 53 505	ShoreA	55	65	85	TIX
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**	**41,9**
Tensile strength	DIN 53 504	N/mm^2	24,6	32,1	47,8	...
Tear prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7	...
Elongation at tear	DIN 53 504	%	623	578	478	225
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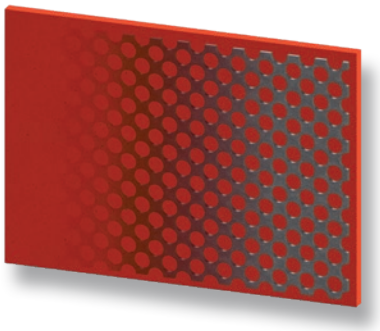
Temperature range	from -30 ° to 80 °, max. during short time up to 100 °					

PUCEST® plates



PUCEST® plates with perforated sheet insert

with perforated sheer insert made of aluminum or steel

Plates usually in the standard shore hardness degrees between 65° and 85° Shore A.Shore hardness degrees between 25° and 90° are possible.

Dimensions	2.000 x 1.000 mm	2.500 x 1.250 mm	3.000 x 1.500 mm
Thickness	8 - 100 mm	8 - 100 mm	8 - 100 mm
It is possible to make cuts per customer request			

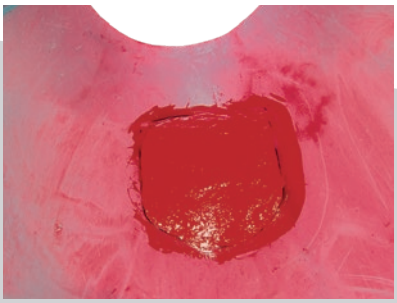
PUCEST® plates can be cut into shape with any type of jig saw and used as lining.

It is no problem to mill, roll or edge the plates for the desired purpose. No matter if milled segments for funnels, half shells for tubes or tilting for belt linings: the shaped lining plates are easily screwed together with the base body.

Due to the screw connection it is not necessary to clean the part of the plant, which has to be lined, metallically bright.

PUCEST® TIX spackle

PUCEST® TIX was especially developed for the repair of worn out PUCEST® wear protection systems. Conventional wear protection solutions necessitated usually the exchange of the whole wear surface even with a small abrasion.
Since the development of PUCEST® TIX this is no longer necessary as worn out positions can be repaired.



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Loading hoses
Discharge hoses

PUCEST® protect GmbH offers you loading and discharge hoses from highly wear-resistant PUCEST® for each type of machines. Our loading and discharge hoses reach a multiple life time of original hoses from rubber due to:

- very high mechanical strength
- good abrasion resistance
- high elasticity
- resistance to moisture
- resistance to oils and fats, mixer protection
- low temperature sensitivity
- very good weather resistance (doesn't get porous)

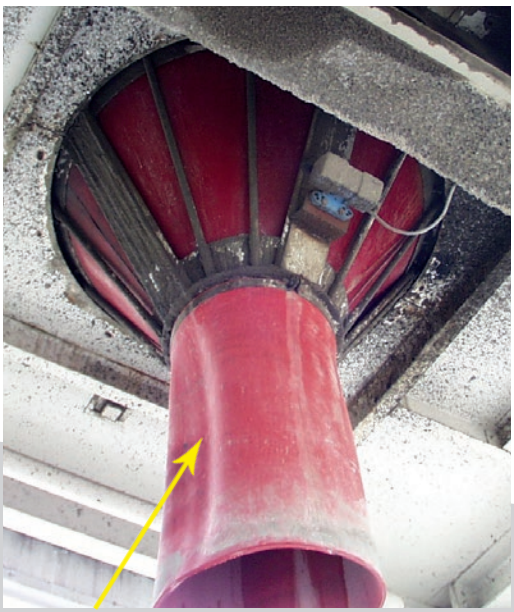
Application examples

▲

A PUCEST® discharge hose after a wear life span of 100,000 m^3

▲

A PUCEST® discharge hose: At this mixing plant a PUCEST® discharge hose was installed at the swivel arm for “self-collectors”.



▲

A PUCEST® discharge hose at a PUCEST® discharge funnel

▲

A PUCEST® discharge hose with collar. The collar serves as splash protection during the loading of the transport mixer.

PUCEST® protect GmbH
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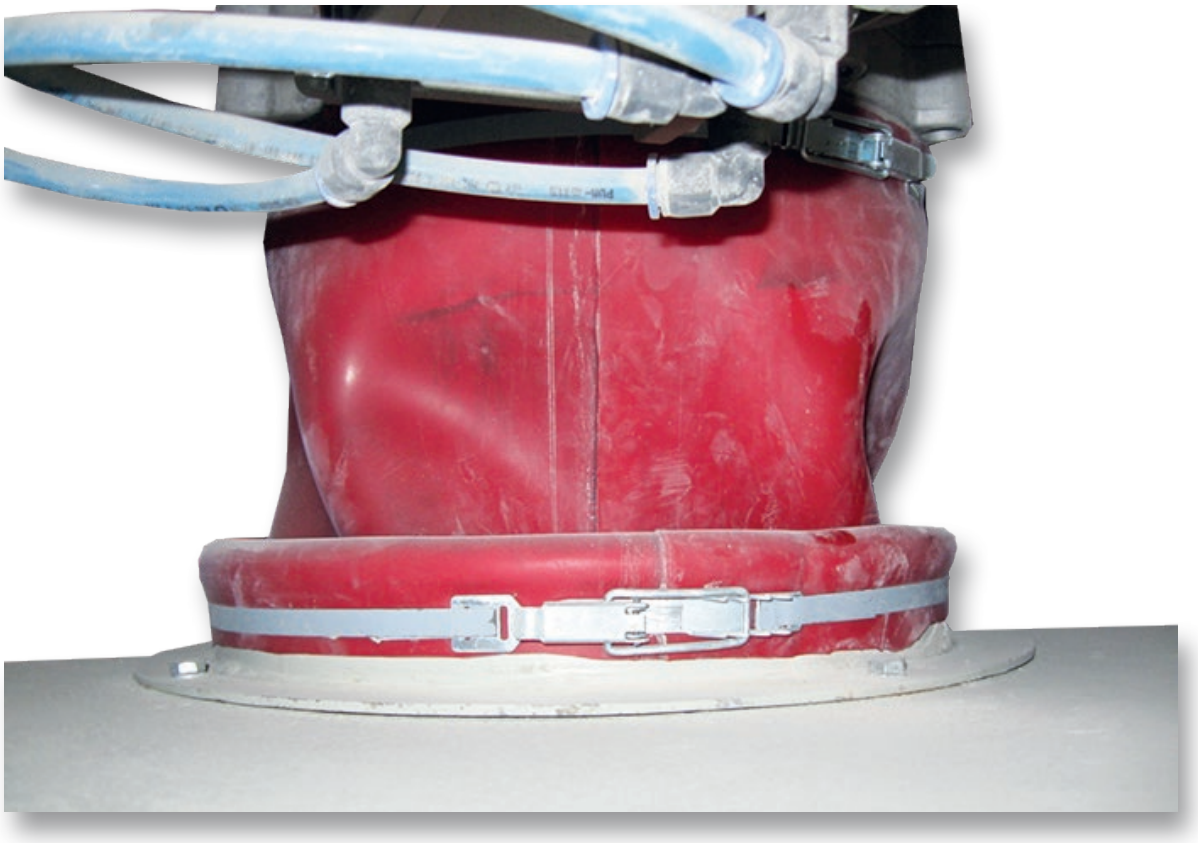
Transfer hoses and Cuffs



Transfer hoses and transfer cuffs are individually developed and they are available in all lengths and diameters.

Conical form designs are also possible.

Material strength and Shore hardness can be varied.

Sincethe hoses are manufactured of PUCEST® they are also unaffected by PUCEST® mixing protection and other oily additives.

Cuffs can be manufactured also in PU25°Shore.

Application examples

transfer sleeve
cement scale / mixer

sleeve
mixer ventilation

transfer sleeve
water level / mixer

transfer sleeve
aggregate scale / mixer

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PUCEST® TIX

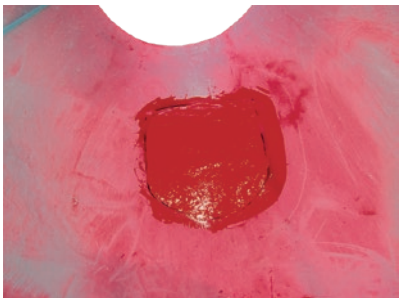
material designation	abrasion DIN ISO 4649 mm3	hardness DIN 53 505 Shore A	density DIN 53 479 g/dm³	tensile strength DIN 53 504 N/mm²	elongation at break DIN 53 504 %
PUCEST® TIX	41,9	85(+/-5)	1230	24,7	225

- **PUCEST® TIX**
  for the repair of worn out PUCEST® wear protection systems
- **PUCEST® TIX CE**
  for ceramic linings
- **PUCEST® PU liquid**
  as liquid cold grouting systems for linings
- **PUCEST® Primer**
  for the primer coat

PUCEST® TIX was especially developed for the repair of worn out PUCEST® wear protection systems.

Conventional wear protection solutions necessitated usually the exchange of the whole wear protection surface even with a small abrasion. Since the development of PUCEST® TIX this is no longer necessary as worn out positions can be repaired.

User-friendly two-component repair system; for 15 years established in practice.



- Quick repair of damaged linings
- Short downtimes
- Very user-friendly processing
- Extremely wear resistant, even after repair!

Repair of a damaged lining, step by step

Damaged position... grind off clean mask generously spackle perfectly mended

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PUCEST® Tix CE, CERA - spackle

PUCEST® Tix CE is a ceramic filled spackle, especially developed for the partial overhauling of ceramic linings like in mixer bottoms, chutes, gravity chutes etc.

PUCEST® PU liquid, 2K cold grouting system

PUCEST® PU liquid is a casting compound, especially developed for the partial overhauling of linings.

PUCEST® HV adhesion promoter – primer, primer coat

PUCEST® HV adhesion promoter – primer, a primer coat for the optimal connection between PUCEST® PU liquid and the underground

PUCEST® TIX complete packages

Beginner spatula KIT: for occasional repairs and filling works

PUCEST® starter-Kit

Consisting of:

PUCEST® TIX work package

- PUCEST primer coat
- electronic dosage scale
- 5 additional stir sticks
- 5 additional gloves
- 5 additional mixing buckets

Professional spatula KIT: for the professional overhauling

PUCEST® starter-Kit professional

Consisting of:

PUCEST® TIX work package

- PUCEST primer coat
- electronic dosage scale
- 5 additional stir sticks
- 5 additional gloves
- 5 additional mixing buckets
- grinding machine; adjustable
- adhesive tape
- cutter knife

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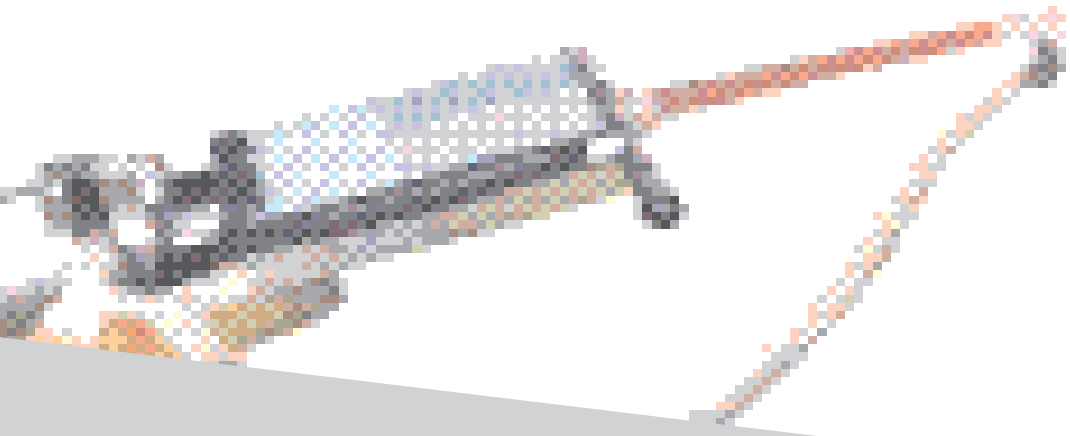
INVESTMENT COSTS ARE CLEARLY UNDER 1,000 €

PUCEST®

Do it yourself PUR spray system

- Wear
- Abrasion
- Erosion
- Cavitation
- Corrosion
- Noise
- Stroke



P 0016

PUCEST® PUR Spray System

On-site sprayable wear protection for the resolution of problems with erosion, corrosion and surfaces

The recently from PUCEST protect GmbH developed PUR spray system is an innovative solution to protect different undergrounds easily from wear.
Surfaces can be coated quickly and cleanly with the highly wear resistant PUCEST®.
A seamless and professional surface coating is possible.

***Do it yourself** – not only a term for craftsmen*

The spray coating is sprayed on-site, true to the motto "Do it yourself", with the spray pistol directly from the PUCEST® PUR spray system cartridges on the desired underground in an optimal dosage. Neither interminable gluing or screwing processes, nor external staff are necessary for an ideal wear protection.

EASY, QUICK, SEAMLESS, CLEAN !!!

Material details / coating procedure

PUCEST® Do it yourself PUR Sprühsystem

The Material

The coating is carried out by spraying. This product consists of a solvent-free 2-component-elastomer. One minute after the coating the polymerization starts, so that coating thicknesses between 2 and 50 mm are realizable even on vertical surfaces.

The PUCEST® PUR spray material is suitable for nearly all materials including steal, brass, aluminum, bronze and cement. The coated surface is after only 5 minutes touch-dry and after 24 hours (at 20°C) ready for use. Per application the temperature constancy is dependent between -40°C and +80°C.

The PUCEST® PUR spray material hardens without tension and develops in addition to the chemical adhesion a mechanical adhesive effect. This adhesive effect pulls the underground permanently against the coating.

The PUCEST® PUR spray coating is repairable and is several times usable.

The PUCEST® PUR spray system coating is easy to handle.

The coating procedure

The compressed-air coating procedure of the highly wear resistant PUCEST® is quite easy.

The PUCEST® spray material is delivered in cartridges. The costumer screws the included static mixing and spraying jet onto it. The sputtering process of the PUCEST® spray material is started with the spray pistol. The PUCEST® spray material is pressed out of the cartridge package into the mixer and is mixed. Afterwards, you can start with the spray coating in an exact dosage via spray cartridge.

The one-way spray cartridges have to be depolluted professional after usage. Partially used cartridges can be taken out and used later once again and then be used up. The device is free of cleaning and maintenance.

For the protection of the operator we recommend imperatively/basically the application in rooms with a suitable extraction and we recommend wearing suitable protective equipment (respiratory protection, eye protection, skin protection by wearing a disposable suit and gloves)

see: PUCEST®-equipment

Basically, the fabricators have to work in rooms with a suitable extraction and with a breathing mask.

For an optimal performance we recommend an air pressure from 7 to 8 bar.

Your investment costs are clearly under 1,000 €.

Abrasion-/erosion resistant
Permanently elastic
Cavitation repressive
Corrosion-resistant
Stroke sorbing

PUCEST® PUR Do it yourself spray system

Investment costs are clearly under 1,000 €

The PUCEST® PUR spray system is an innovative solution to protect different undergrounds easily from wear. Surfaces can be coated with the PUCEST® PUR spray system cartridges quickly and easily with polyurethane, so that your surface coating is seamless and professional.

Available with 1.5 kg 85°/95° Shore cartridges
Available with 0.6 kg 85°/95° Shore cartridges

Colors and Professional equipment

PUCEST® Do it yourself PUR Sprühsystem

Colors

- Yellowe
- Blue
- Green
- Red
- Black
- Brown

The professional wear-protection equipment

The PUCEST® PUR spray system coating in the 2 versions 85° and 95° Shore is:

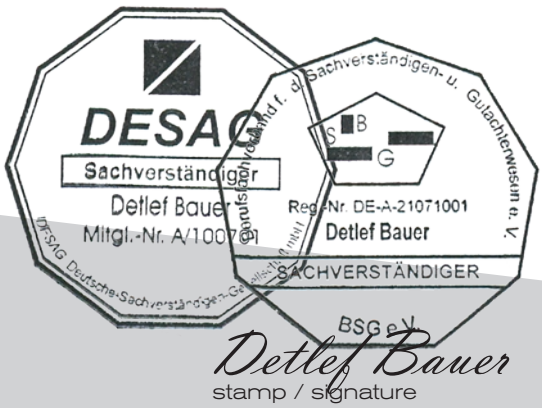
- highly wear resistant
- highly abrasion-proof
- repairable
- energy absorbing
- UV resistant
- Resistant against oils and fats
- low temperature sensitivity

Technical data

PUCEST® PUR spray system
Hardened system typical properties

Property	Test procedure	values	unit
shore hardness	BS EN ISO 868	**85**	°A
density	BS 903 Pt A1	950	Kg/mm³
module 100%	BS 903 Pt A2	4.5	MPa
tensile strength	BS 903 Pt A2	11.5	MPa
elongation at break	BS 903 Pt A2	320	%
tear resistance	BS 903 Pt A3	38	N/mm

Property	TTest procedure	values	unit
shore hardness	BS EN ISO 868	**95**	°A
density	BS 903 Pt A1	980	Kg/m³
module 100%	BS 903 Pt A2	9	MPa
tensile strength	BS 903 Pt A2	16	MPa
elongation at break	BS 903 Pt A2	250	%
tear resistance	BS 903 Pt A3	70	N/mm



Detlef Bauer
stamp / signature

PUCEST® PUR spray system

Application range

Wear protection / impact absorption / noise inhibition / corrosion protection

For example for:

Auslauftrichter, Rutschen,
Rinnen, Schütten, Kübel, Mulden,
Windsichter, Zyklone, Abscheider,
Förderschnecken, Wiegebänder,
Mischer, Rollen, Walzen,
Transportbänder, Vibrationsrinnen,
Übergabestellen, Elevatorbecher,
Tanks, Silos, Rohrbogen, Flansche
Werkstückträger, Siebtrommeln
usw.

EASY,

QUICK,

SEAMLESS,

CLEAN

!!!

PUCEST® PUR spray system

Application range

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For example for:

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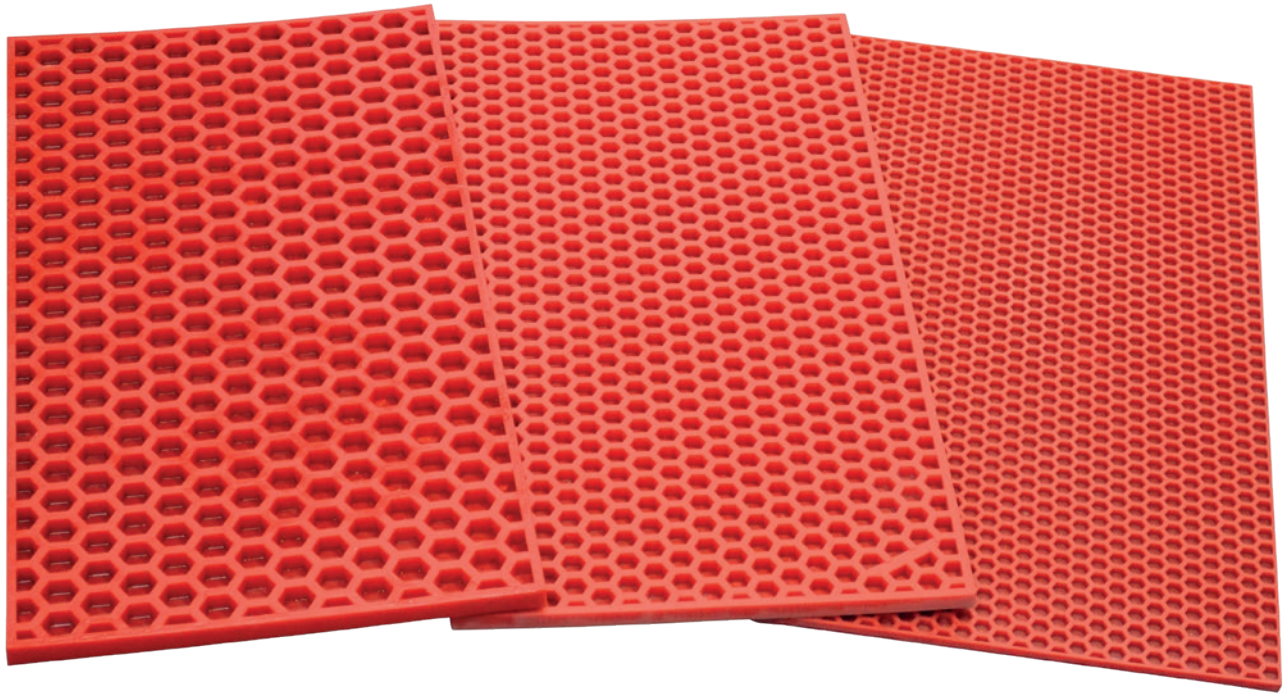
Hexagon-Protector – Series

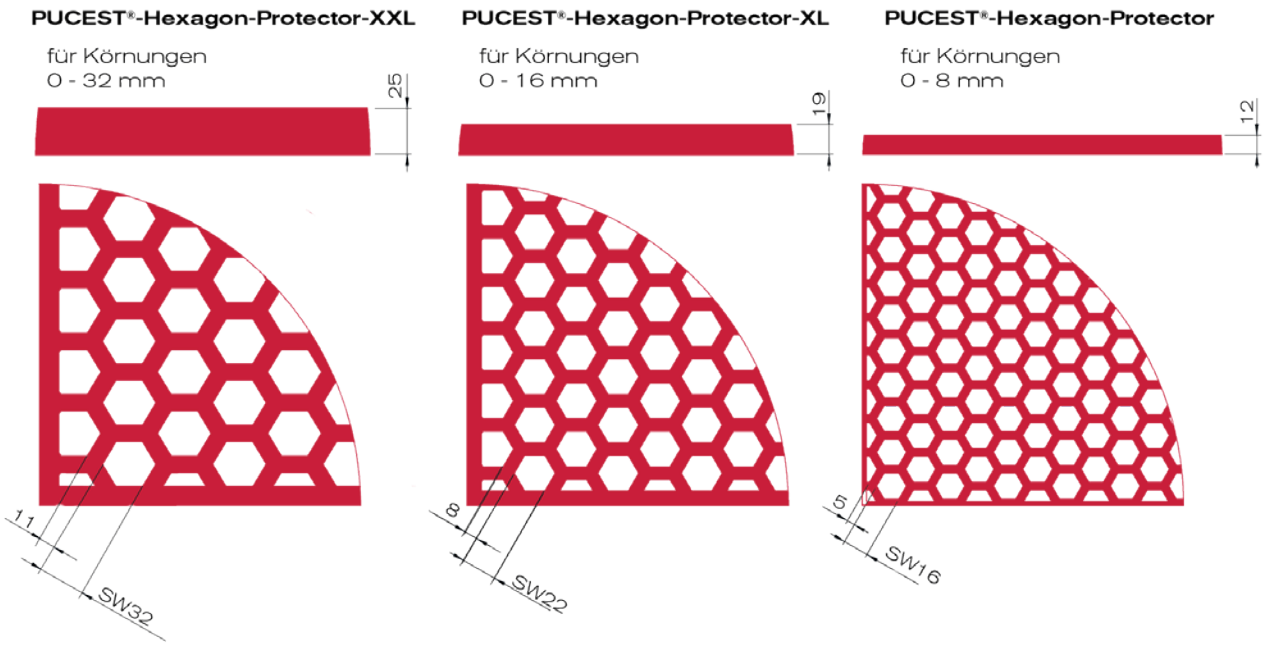


Advantages of resetting to PUCEST®:

- **Short downtime for the replacement of damaged parts**
- **High wear resistance**

This PUCEST®-Hexagon-Protector works on a simple principle:
Some of the conveyed material is collected in the hexagon formed catch trays of the impact (baffle) protector and thereby forms wear protection with the conveyed material. The wear effect is slowed significantly. Another advantage of the impact (baffle) plate is given by its elasticity.
Coarse grained material (for example, gravel) does not split on impact.

The plate size amounts to 500 x 1000 mm



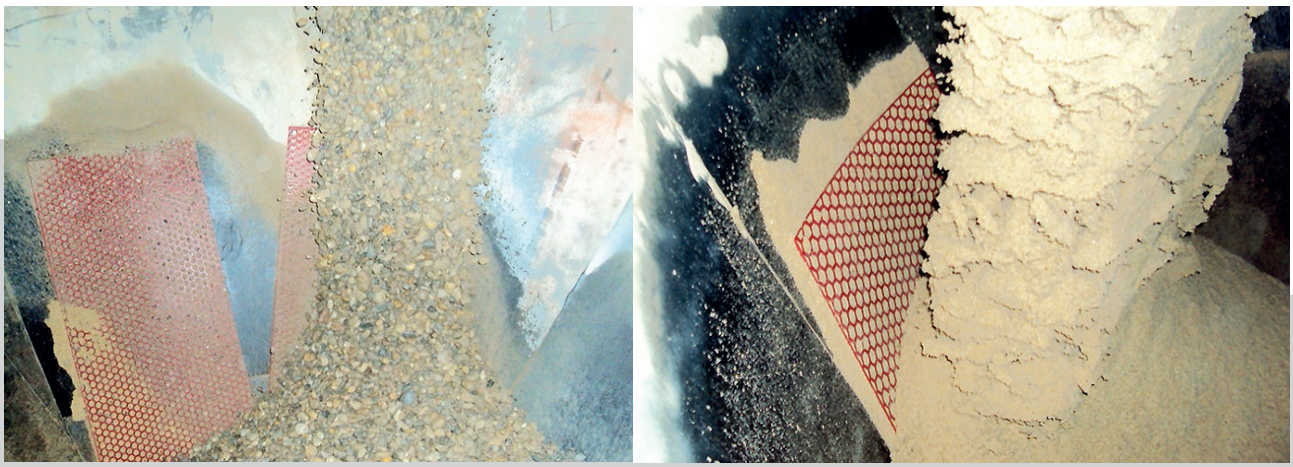
PUCEST® Properties

Degree of hardness	DIN 53 505	ShoreA	55	65	85
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**
Tensile strength	DIN 53 504	N/mm^2	24,6	32,1	47,8
Tear prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7
Elongation at tear	DIN 53 504	%	623	578	478
Rebound resilience	DIN 53 512	%	50	50	43

PUCEST® Wearing protection parts

Almost all wearing protection parts can be produced from PUCEST®. Beginning with grab bars, continuing with impact bar and ending with buffers.

Application range



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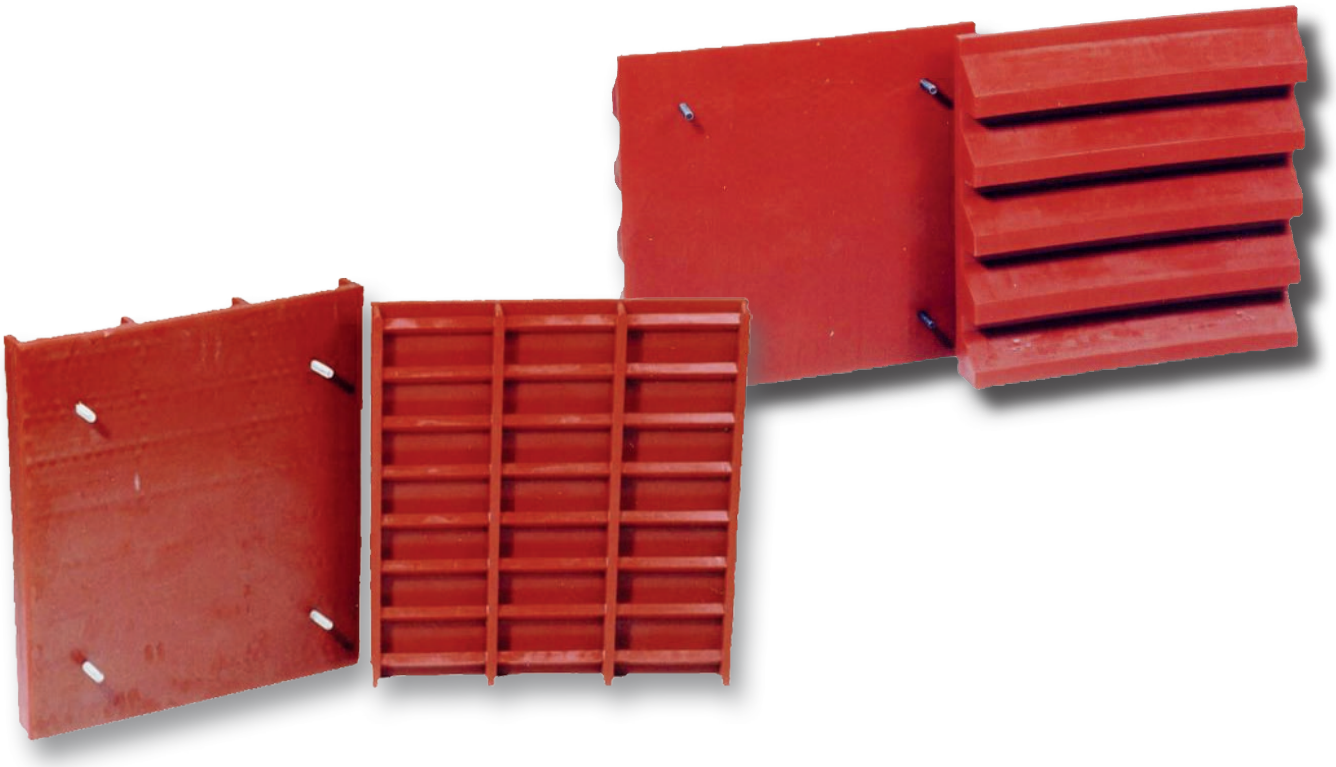
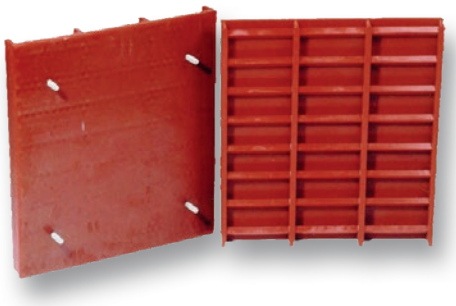
pocket panel and baffle plate with step profile



The standard size of the plates is 500 mm x 500 mm with a thickness of 50 mm. The shore hardness should be chosen by customer between A 50-95 °.
Baffle plates can be quickly and easily installed using stay bolts on the back side.

PUCEST® Prallplatten



This PUCEST® pocket panel works on a simple principle:

A portion of the conveyed material, which on the plate rebounds, accumulates in the chambers and thus assumes a buffer function.

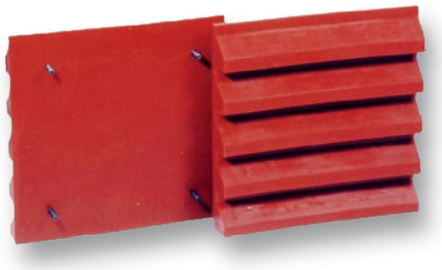
The wear effect is slowed significantly this way. A further advantage of the baffle plate is its elasticity.

Coarse grained goods (for example gravel) does not crack when collision.

The use of PUCEST® pocket panels with material buffer is recommended when using a grain size up to 32 mm.

The PUCEST® baffle plate with step profile is recommended when using a grain size >32 mm.

When using profile beams of the baffle plate the most acute impact angles of the transported material are changed for the most part into a right angle whereby the abrasion (scraping) wear effect is being significantly diminished. Baffle plates achieve thereby excellent lifetimes.



The standard size of the plates is 500 mm x 500 mm with a thickness of 50 mm. The shore hardness should be chosen by customer between A 50-95 °.
Baffle plates can be quickly and easily installed using stay bolts on the back side.

Example of use

Examples of the PUCEST® pocket panels use with material buffers on set-up and transfer points:

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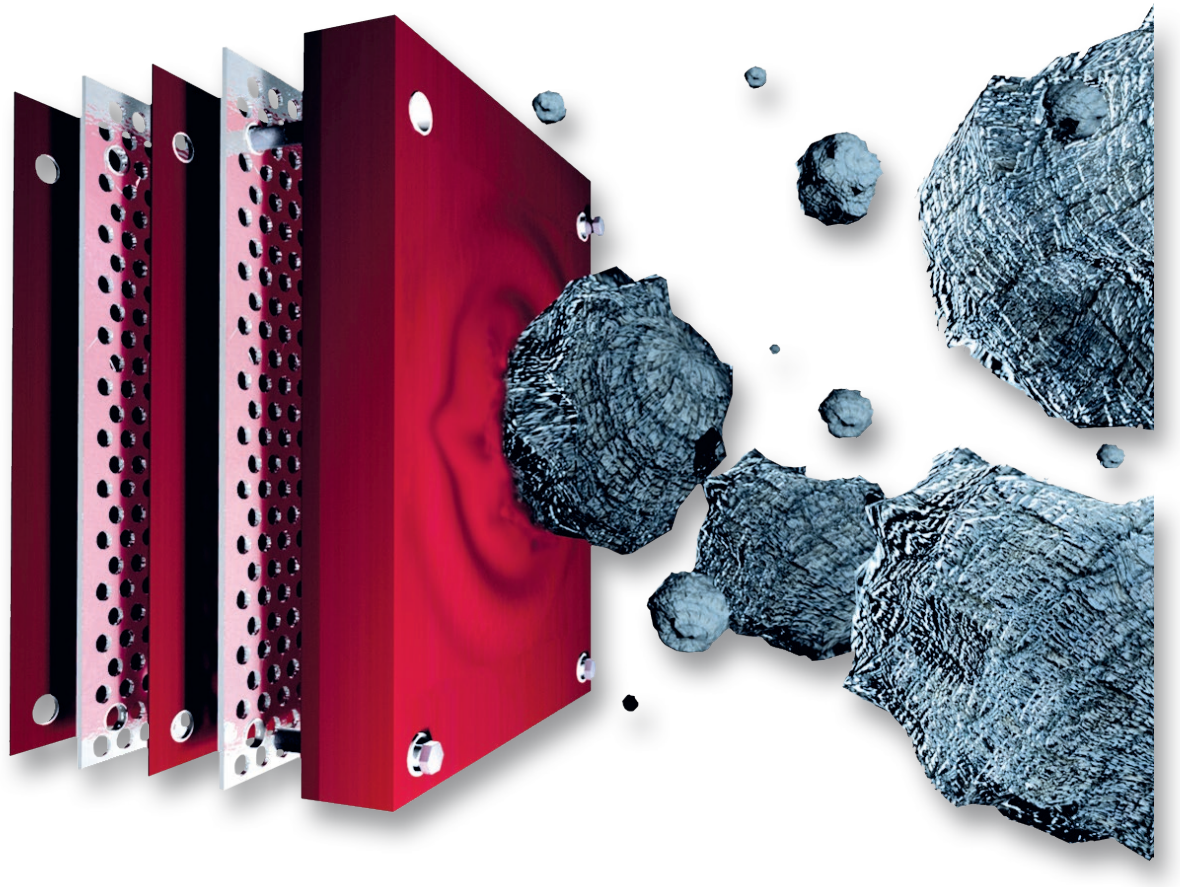
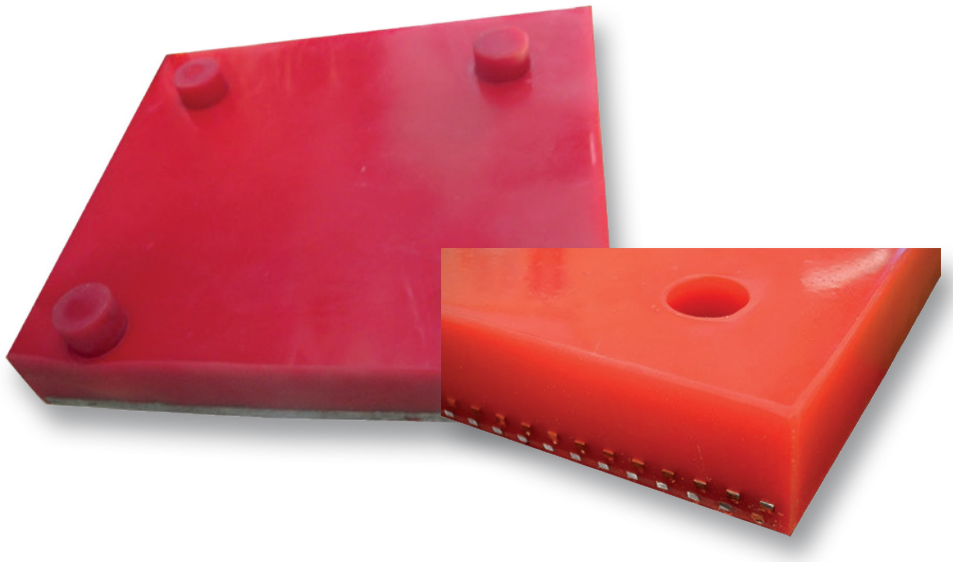
Multi-Layer

for the highest requirements



- extremely high wear resistance
- abrasion by DIN 53516 / ISO 4659 - 5,8 mm^3
- extremely form stable due to double 4 mm perforated sheet metal insert
- 60% weight saving compared to the normal steel reinforcement
- Due to PUCEST® TIX anytime reparable
- Size and dimensions at the customer‘s option
- Easy installation



Applications

PUCEST® Properties

Degree of Hardness	DIN 53 505	ShoreA	55	65	85	TIX
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**	**41,9**
Tensile strength	DIN 53 504	N/mm^2	24,6	32,1	47,8	...
Tear prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7	...
Elongation at tear	DIN 53 504	%	623	578	478	225
Rebound Resilience	DIN 53 512	%	50	50	43	...
Temperature range	from -30 ° to 80 °, max. during short time up to 100 °					

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PUCEST® protect GmbH

Impact bar

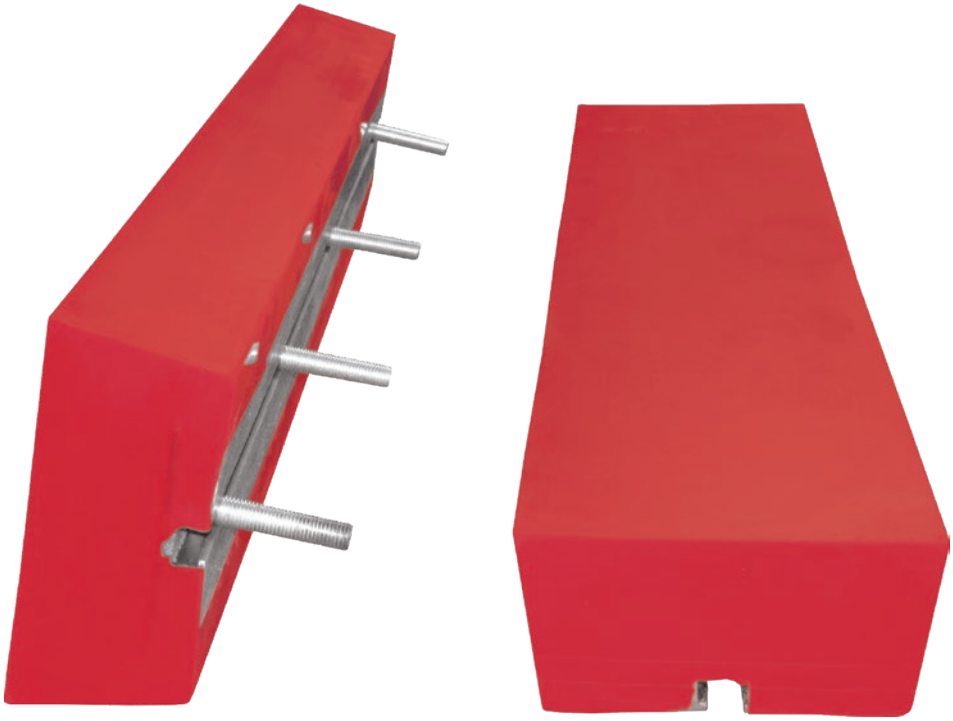
with integrated fastening track

Example of use

P 0020

Impact bar

with integrated fastening track



At the exchange points of transport facilities, the conveyer band is protected from damages due to the PUCEST impact bar.
The kinetic energy is damped down by the elastic PUCEST material, which has a high restoring force.
The assembly is carried out with T-slots or thread inserts.

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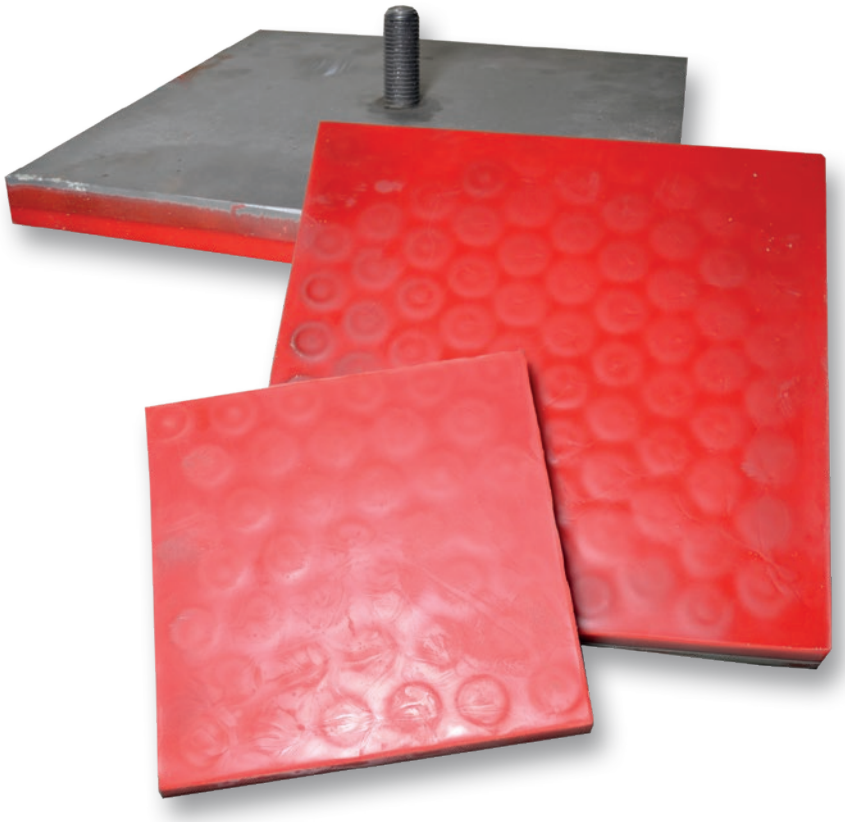
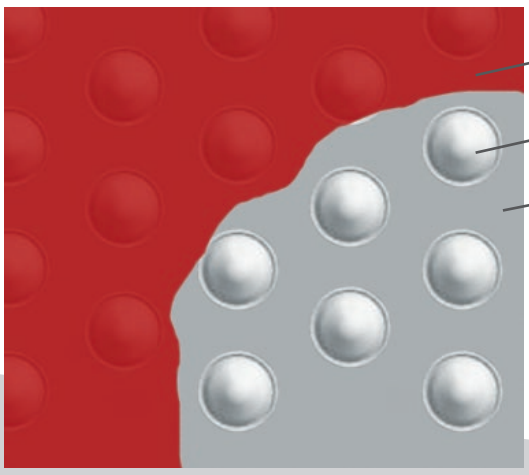
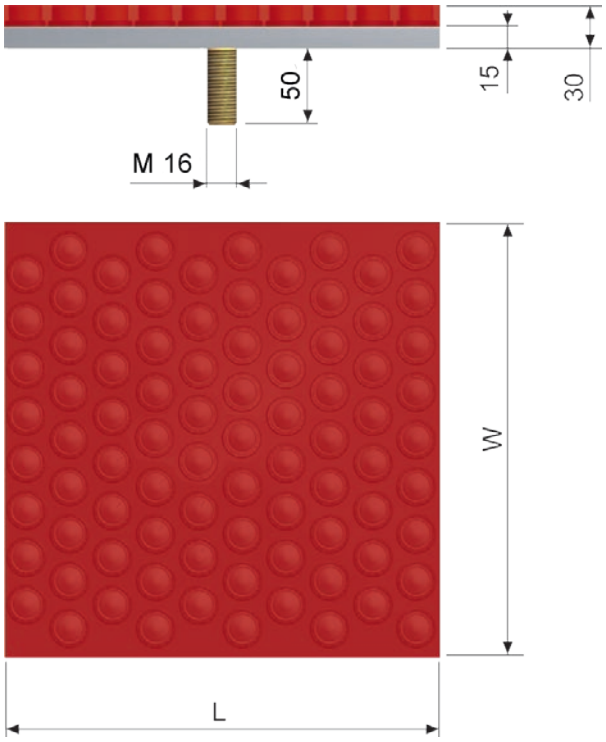
TSHM composite panels



The PUCEST® TSHM composite panels are used in funnels, chutes, skips and tubes in which hard impacts and massive abrasive wear can appear. For these hard requirements the PUCEST® TSHM composite panels are, as an innovative development, an excellent choice.

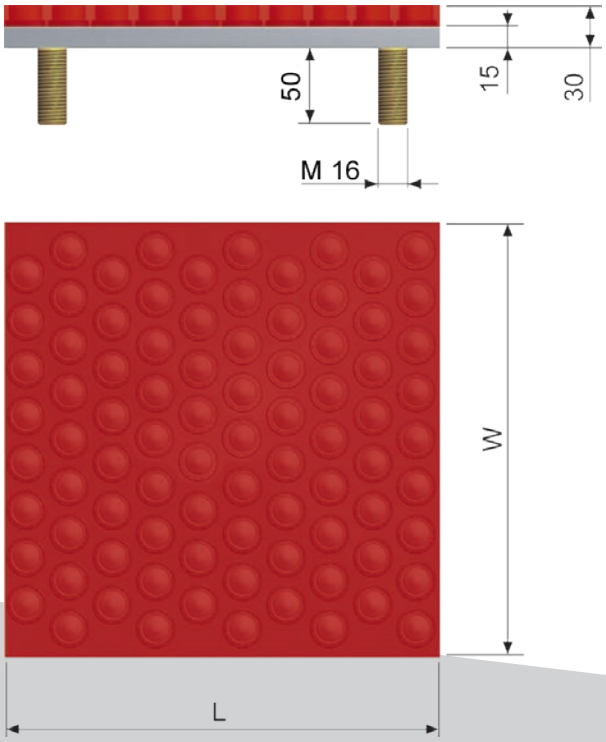


After partial wear of the PUCEST® -material, a part of the conveyed material gathers itself between the cemented carbide and adopts thereby a buffer function. This clearly slows down the further wear process.



PUCEST THSM composite panels with 1 bolt

Length L (mm)	Width W (mm)	Total thickness (mm)
200	200	30
250	250	30
300	300	30



PUCEST THSM composite panels with 4 bolts.

Length L (mm)	Width W (mm)	Total thickness (mm)
200	200	30
250	250	30
300	300	30

The measurements stated are default measurements.
Other measurements are possible!

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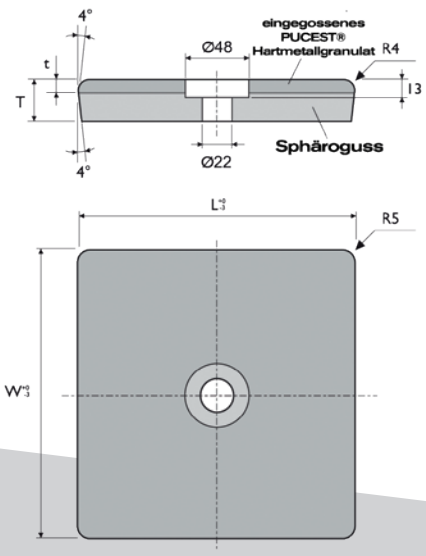
HM composite panels

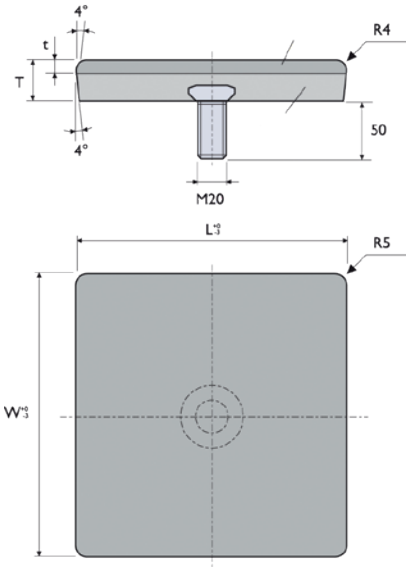
PUCEST® HM composite panels are used in tubes, skips, slips, hoppers and pipes subject to strong impact and massive abrasive wear.

In order to comply with this requirements the choice of PUCEST® HM composite panels is the perfect choice.



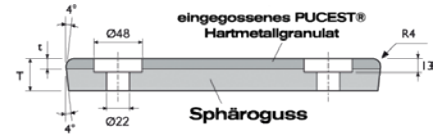
PUCEST® HM composite panels with hole

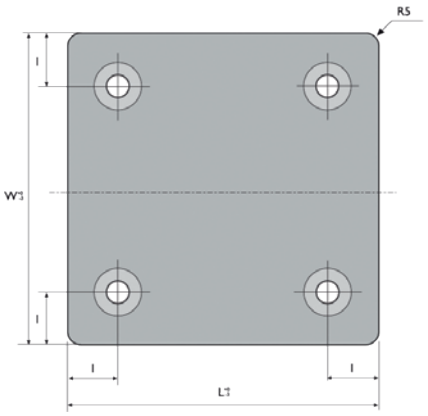
Length L (mm)	Breadth W (mm)	General Thickness T (mm)	Granulate Thickness t (mm)	Best. Nr.:
200	200	30	10	
200	200	20	8	
250	250	30	10	
250	250	20	8	
300	300	30	10	
300	300	20	8	



PUCEST® HM composite panels with bolts

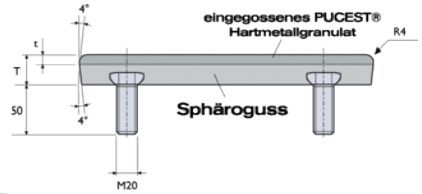
Length L (mm)	Breadth W (mm)	General Thickness T (mm)	Granulate Thickness t (mm)	Best. Nr.:
200	200	30	10	
200	200	20	8	
250	250	30	10	
250	250	20	8	
300	300	30	10	
300	300	20	8	

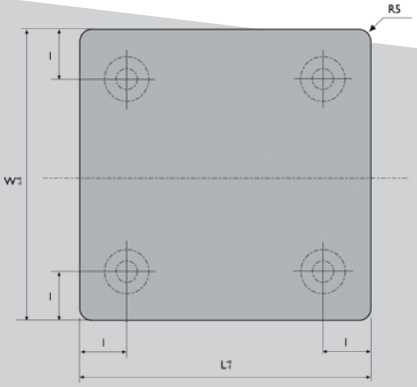




PUCEST® HM composite panels with 4 holes

Length L (mm)	Breadth W (mm)	Length, Corner to hole l (mm)	General Thick-ness T (mm)	Granu-late Thick-ness t (mm)	Best. Nr.:
400	300	50	30	10	
400	300	50	20	8	
300	300	50	30	10	
300	300	50	20	8	
300	300	75	30	10	
300	300	75	20	8	





PUCEST® HM composite panels with 4 bolts

Length L (mm)	Breadth W (mm)	Length, Corner to hole l (mm)	General Thick-ness T (mm)	Granu-late Thick-ness t (mm)	Best. Nr.:
400	300	50	30	10	
400	300	50	20	8	
300	300	50	30	10	
300	300	50	20	8	
300	300	75	30	10	
300	300	75	20	8	

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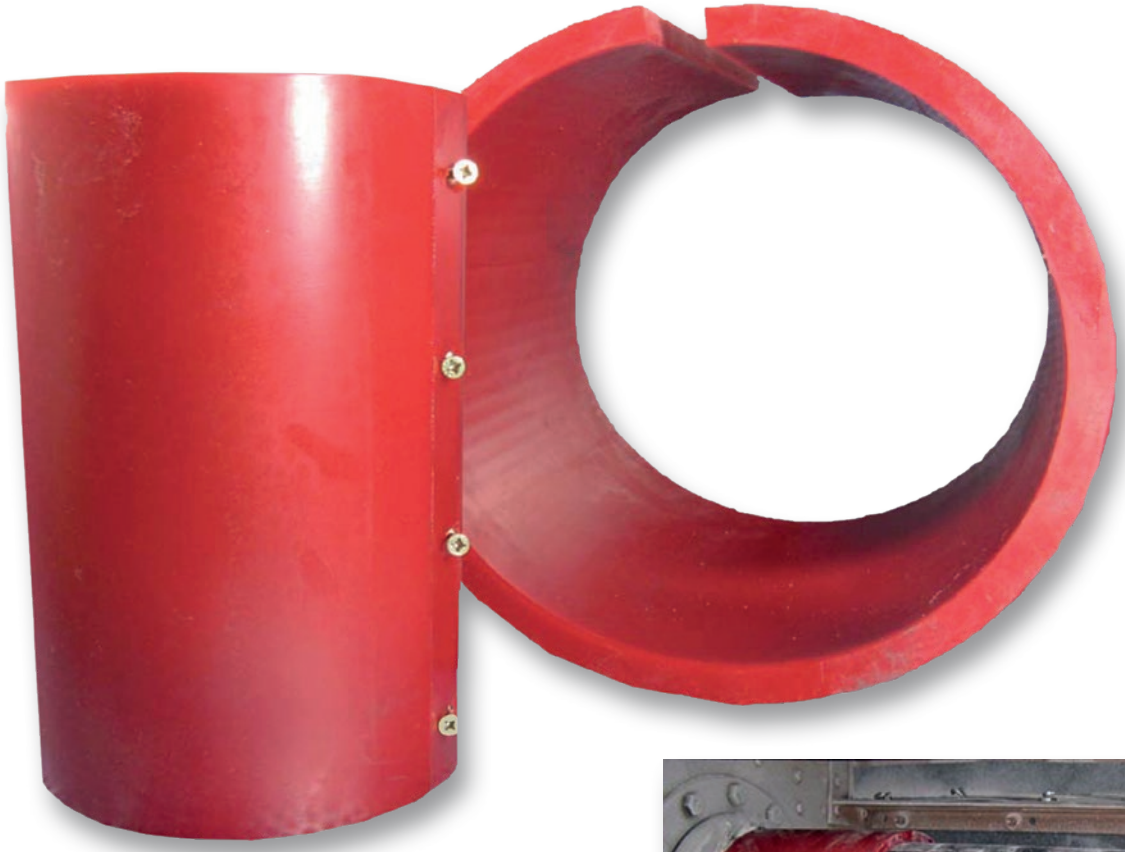
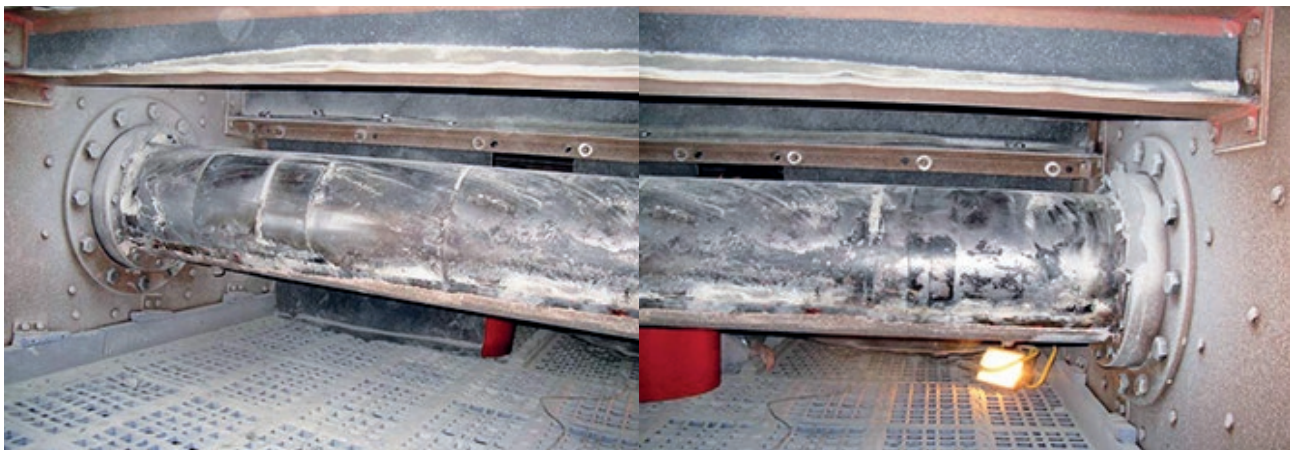
Shaft and traverse saver



- perfect protection for your shaft
- very wear resistant because of it is made of PUCEST®
- easy and quick installation using Spax fixing, no long hours of the ground preparation are necessary
- almost all lengths and diameters are available



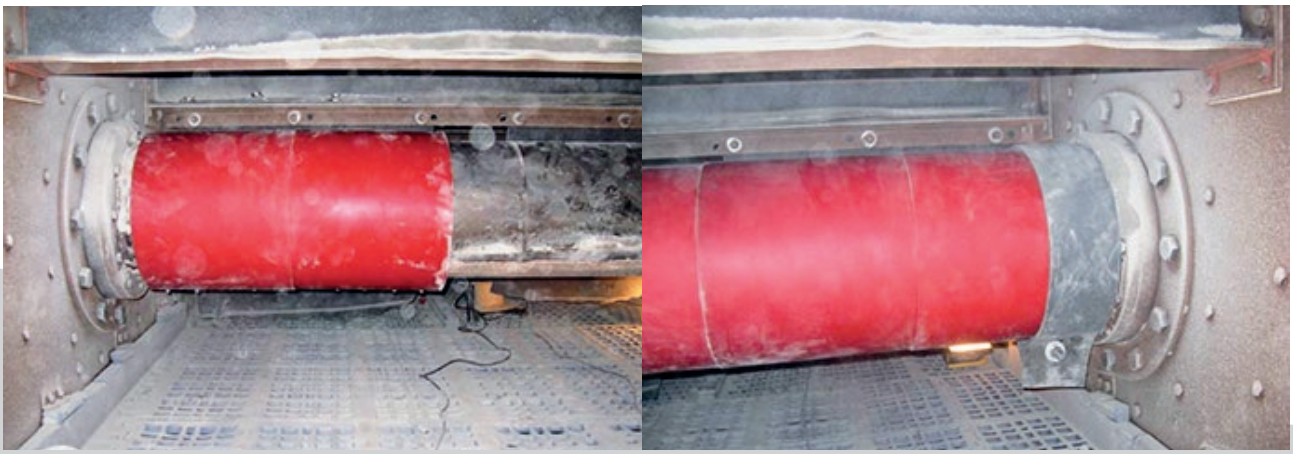
Protective pipe of the eccentric and the traverse inside of separating plant is subject to substantial wear and its working durabilityis often predictable.

The replacement or repair of these protective pipes is oftenvery complex and that's why it can raise significant costs and production downtimes.

Also covering / pasting with anti-wear rubber matsor something like this is very expensive and cumbersome, since considerable expenses incur when-pipe cleaning before pasting. Furthermore, the surface in case of exchange isalso removed very tedious.

The new PUCEST® shaft savers are not subject to this laborious installation. The saversare twisted roundthe cleaned axle or pipeand they are fixed using screws attached to the savers.

Savers manufactured of PUCEST® 85 are extremely wear resistant and they are very easy to install and very user friendly. The savers are delivered in al-mostany diameter and thickness.



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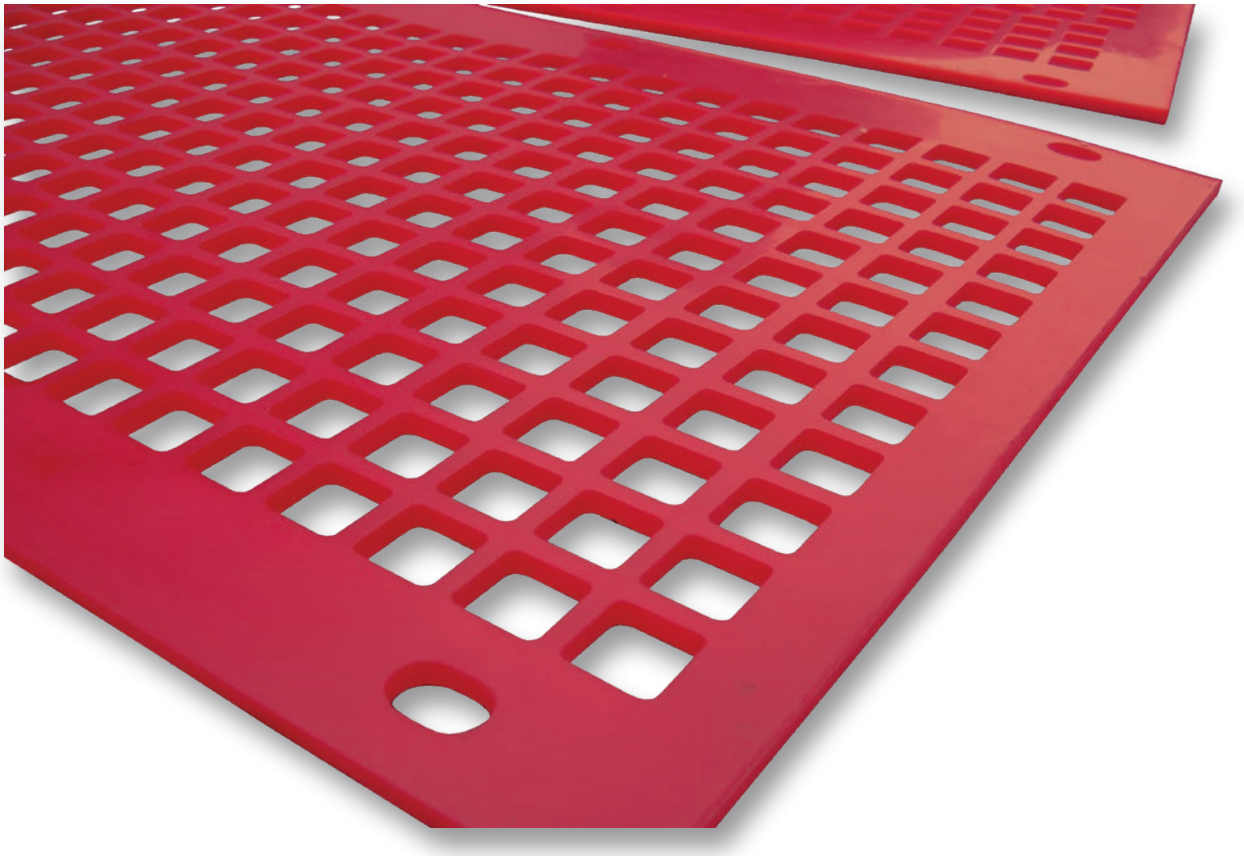
PUCEST®
Wire Screens



Wire Screens of PUCEST® are characterized by good resistance to abrasion and therefore achieve a long lifetime of steel sieve plates. Made in die-cut or waterjet-cut form, in almost any dimensions.
Also available in Ant-adhesive version.

- long service lifetime due to high wear resistance
- good abrasion resistance
- Resistant to moisture
- Resistant to oils and fats, mixers protection
- low temperature sensitivity
- very good weather resistance (not porous)
- good noise attenuation
- no corrosion

PUCEST® Properties

Degree of Hardness	DIN 53 505	ShoreA	55	65	85	TIX
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**	**41,9**
Tensile strength	DIN 53 504	N/mm^2	24,6	32,1	47,8	...
Tear prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7	...
Elongation at tear	DIN 53 504	%	623	578	478	225
Rebound Resilience	DIN 53 512	%	50	50	43	...
Temperature range	from -30 ° to 80 °, max. during short time up to 100 °					

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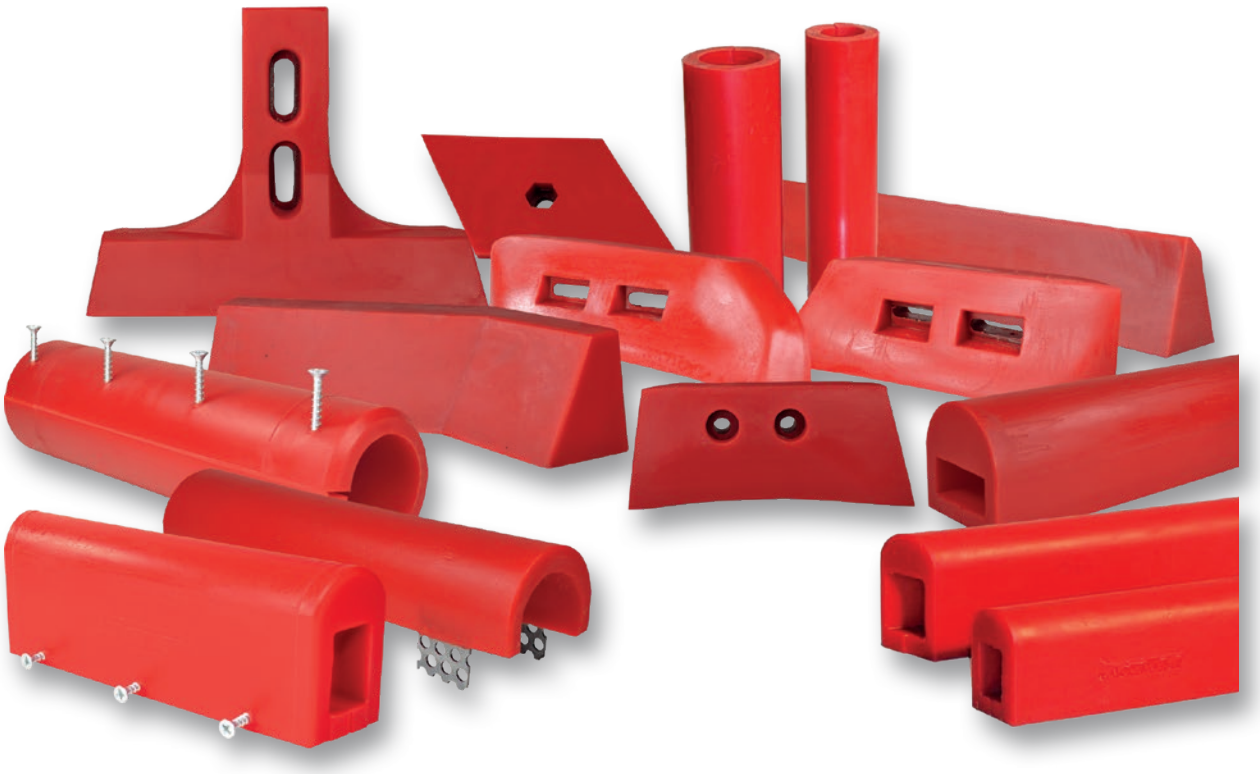
Mixing Tools



PUCEST® mixing tools are available in the form of shovels, arm protectors, clearing capacity and scrapers for each type of mixer.

All PUCEST® mixing tools convince users thanks to its extremely high wear resistance and above-average service life.

Another advantage of PUCEST®-mixing tools is in their specific elasticity: mixer bases and housings are protected when using of PUCEST® - mixing tools, since the material is optimally adapted to the surface without scratching it.

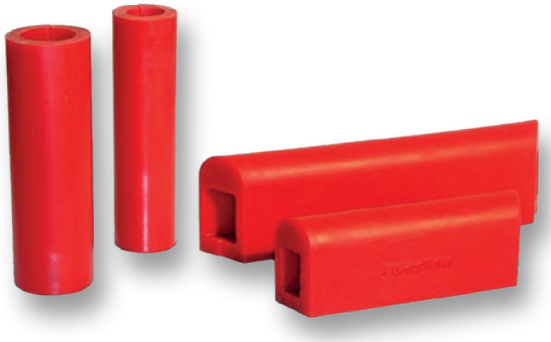
PUCEST® Universal Mixing Tools

- Suitable for almost every plate mixer -

PUCEST® mixing blade on the right

PUCEST® mixing blade on the left

PUCEST® universal inside cleaner including universal holder



PUCEST® universal arm protective layer with spax screw fixing

PUCEST® universal-clearing capacity, is used as an outside cleaner and / or bottom cleaner

PUCEST® universal holding angel for mixing blades suitable for each plate mixer

PUCEST® mixing tools of different plate mixer brands

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PUCEST® mixing blade

Die PUCEST® mixing blade is the absolute universal mixing blade because it works in almost every plate mixer.

The blade is available in left and right versions, thus it fits for left-or right-rotating mixers. It can be used by your design as internal or external blade.

The blade has a solid milled steel core and that's why it has immense form stability. This leads to a high working stability.

The aerodynamic shape of the PUCEST® blade helps that the mixture is mixed by furrowing, unlike by many other shovels when the mixture is just pushed in front of blade. Thanks to this blade form there is a material shifting and that's why the base and the walls are not crushed.

The blade fits e.g. to TEKA, Liebherr, Pemat, WEMA, Fejmert, Kniele mixers. It can be installed into any plate mixer using available optional holder.

The PUCEST® mixing blade is the perfect addition to ceramic mixer base.

PUCEST® mixing blade right version

PUCEST® mixing blade left version

Mixing Instruments
PUCEST® Whirler

Whirler – mixing instruments composed of three components:

1 x whirler plate (supplied with every mixer)
3 x whirler spindle (available in any length)
3 x whirler case (500 mm x 90 mm)

Due to wearing, separate purchasing of the whirler spindle or of the whirler case is possible.

Applications

◀ It shouldn't go inside too far.

These whirler spindles were used for protection of hard metal plates.
The plates in the mixer no longer corresponded to the demands for long-term operation and they peeled back.
Thanks to the PUCEST® components for the whirler instruments this might not have happened. This whirler might have been used again with spindles and cases of the PUCEST® system.

The whirler in built up-condition

▼

▼

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PUCEST® protect GmbH

mixing tools from hard metal composite

- Extremely wear resistant
- Impact-resistant, no chipping of hard metal plates
- No sharp edges as in brazed carbide plates
- Reduction of downtimes due to perfect working stability

PUCEST® impact-resistant mixing blades made of hard metal composite

PUCEST® mixing tools made of hard metal composite

PUCEST® mixing blades made of hard metal composite material are designed for extreme requirements and higher than average demands on wear resistance and length of lifetime.

The composite wear material of the blades combines wear resistance of hard metal with the impact strength, toughness and ductility of nodular cast iron.

The blades are clad on the outside edges with hard metal plates, and additional on the wear side they are provided in a zone with embedded carbide grains. The carbide grains make up about half of the wear volume. Unlike products with welded plates or surfaces in this material both components in a complex casting process have been inextricably compounded with each other.

Neither plates nor grains break out over time.

PUCEST®-Mixing tools made of hard metal and high-strength cast iron composite convince with its excellent working stability and long-term constant mixing results.

Examples of use

Hard metal composite blade is incorporated here into a Liebherr mixer. The blade is particularly suitable for the outside of the mixer.
PUCEST® hard metal composite blades show a multiple count of the working periods that plastic or steel blades could reach.

Hard metal composite blade after 10,000 m³ working duration. The cast was worn on the blade surface over the hard metal plates however the plates and the hard metal granules are unchanged and are firmly embedded in the blade.

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Not all hard metal blades comply with what they promise.

When using soldered hard metal plates it comes to chipping at the main points of blade wear as the following examples show.

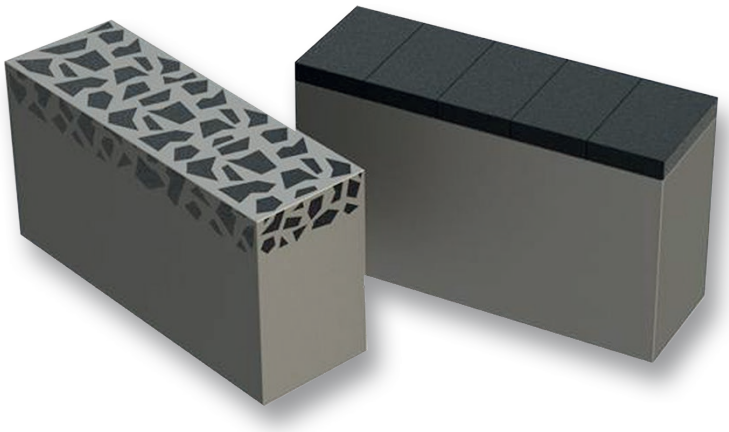
PUCEST® blade made of hard metal

Use in a BHS two-shaft mixer

The picture shows the use of PUCEST® hard metal composite blade in a BHS two-shaft mixer.

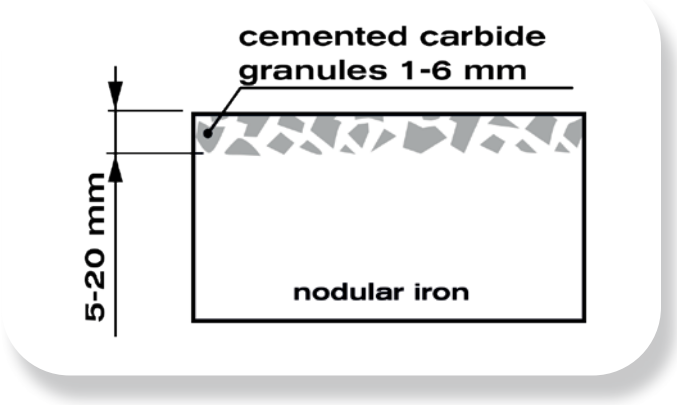
This blade has produced more than 250.000m ^{3} ready-mix concrete and as aggregate broken gravel has been used here

The PUCEST® cemented carbide interconnection

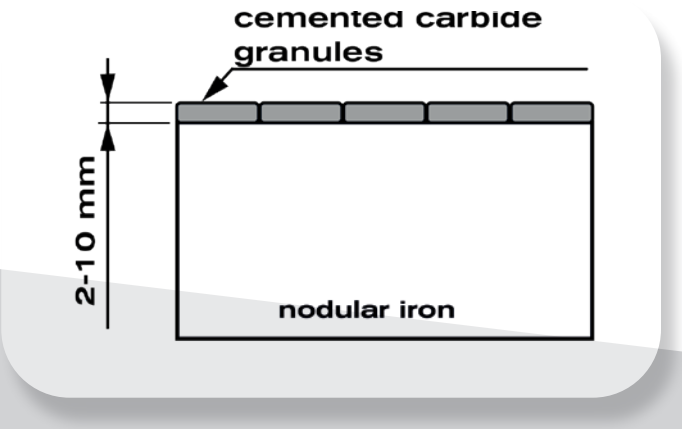


The PUCEST® cemented carbide interconnection consists actually of the two materials which are indicated by the abbreviation of the name – cemented carbide and nodular iron.

The cemented carbide portion is characterized by its high wear resistance. It is non-detachably embedded as plate or granulate into the impact-resistant, viscous and indeformable nodular iron.



If the mechanism of wear is predominantly characterized by hard impacts and shocks, namely impact wear, the wear area consists of cast-in cemented carbide granules.



If the wear, erosion or abrasion is especially abrasive, the cemented carbide granules, which are non-detachably embedded into the base material, form a nearly closed surface.
They offer the best wear protection with temperate impact load.

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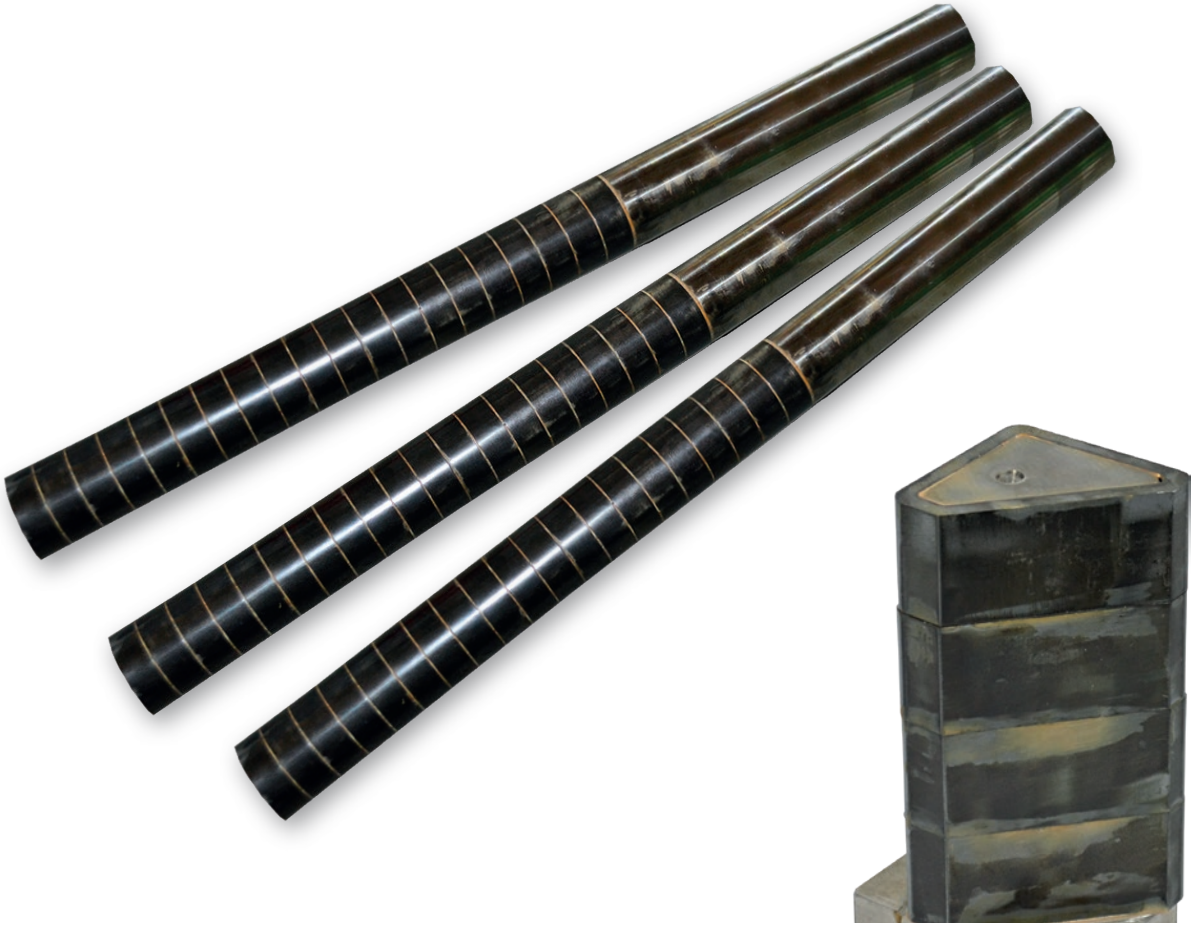
Agitator rods with cemented carbide

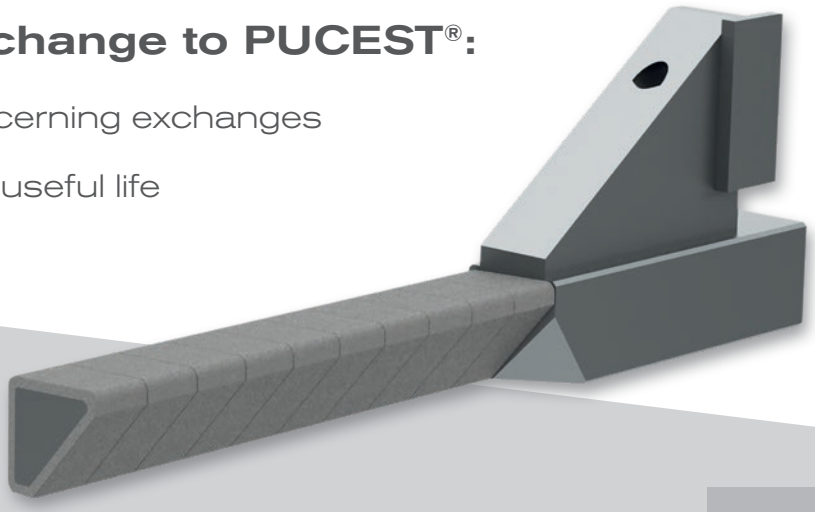


The agitator rods are due to the cemented carbide protected from wear

PUCEST agitator rods with cemented carbide are characterized by their high wear resistance against abrasive mixing material.

Advantages of the change to PUCEST®:

- Short idle times concerning exchanges
- Considerably higher useful life



Carbide
for abrasive mixing materials

Long-lasting carbide wear-edges with a **completely new geometry**

Do you have questions concerning wear protection made of carbide?

We are pleased to inform you about the possibilities of applying carbide.

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Mixer optimization

-Mix, do not replace-

P 0028

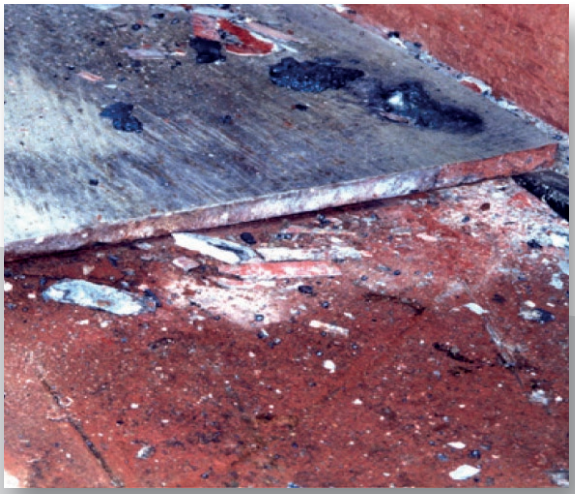
Common problems with pan-type mixer

- insufficient mix results
- long phase of emptying
- material residues stay in the mixer
- long mixing time/ longer charging time of transport
- redundant mixing time wastes energy/current

Pan-type mixer problems „ blading“

- every set of mixing instruments requires many different models of blades and parts (depending on producer, mixer type and model year, these parts also differ from each with type, fixing, function, wear performance)
- often wrong blades can be installed
- provisioning/ inventory control for many different parts requires costs and is expensive.
- wrong ordering of blades, the mixture is turned more like „carrousel“, as it is mixed up

Wrong blades problems
Material catch/(material buffer)



Material buffer
Concrete is pushed over in front of the blade. It saves the blade but does it in an improper way and grinds the plate

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The solution

Mixing instruments

… for almost every mixer, in almost every position

Successfully retooled mixers to PUCEST® mixing instruments
Right blade ordering
The mixing problem issues were solved. The mixture is mixed only in one direction.
Emptying and mixing time is shorted.

PUCEST® blades, here in the right-side kind of design (consists of steel reinforcement on the top as well as on the external area surface)

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Mixer linings

Coating of the Mixer bottom for practically all of the disk-shaped mixers

Applications

▲ ▲

The PUCEST® Mixer bottom of KNIELE Mixer Complete refit with employment of PUCEST® mixing Instruments, including cleaning device and the whirler.

◀ Even at the volume of 30.000 m^3 there Are practically no signs of wearing to be seen. In this case as filler there was even used crushed trap rock.

PUCEST® Properties

Degree of Hardness	DIN 53 505	ShoreA	55	65	85	TIX
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**	**41,9**
Tensile strength	DIN 53 504	N/mm^2	24,6	32,1	47,8	...
Tear Prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7	...
Elongation at tear	DIN 53 504	%	623	578	478	225
Rebound Resilience	DIN 53 512	%	50	50	43	...
Temperature range	from -30° bis 80°, max. during short time up to100°					

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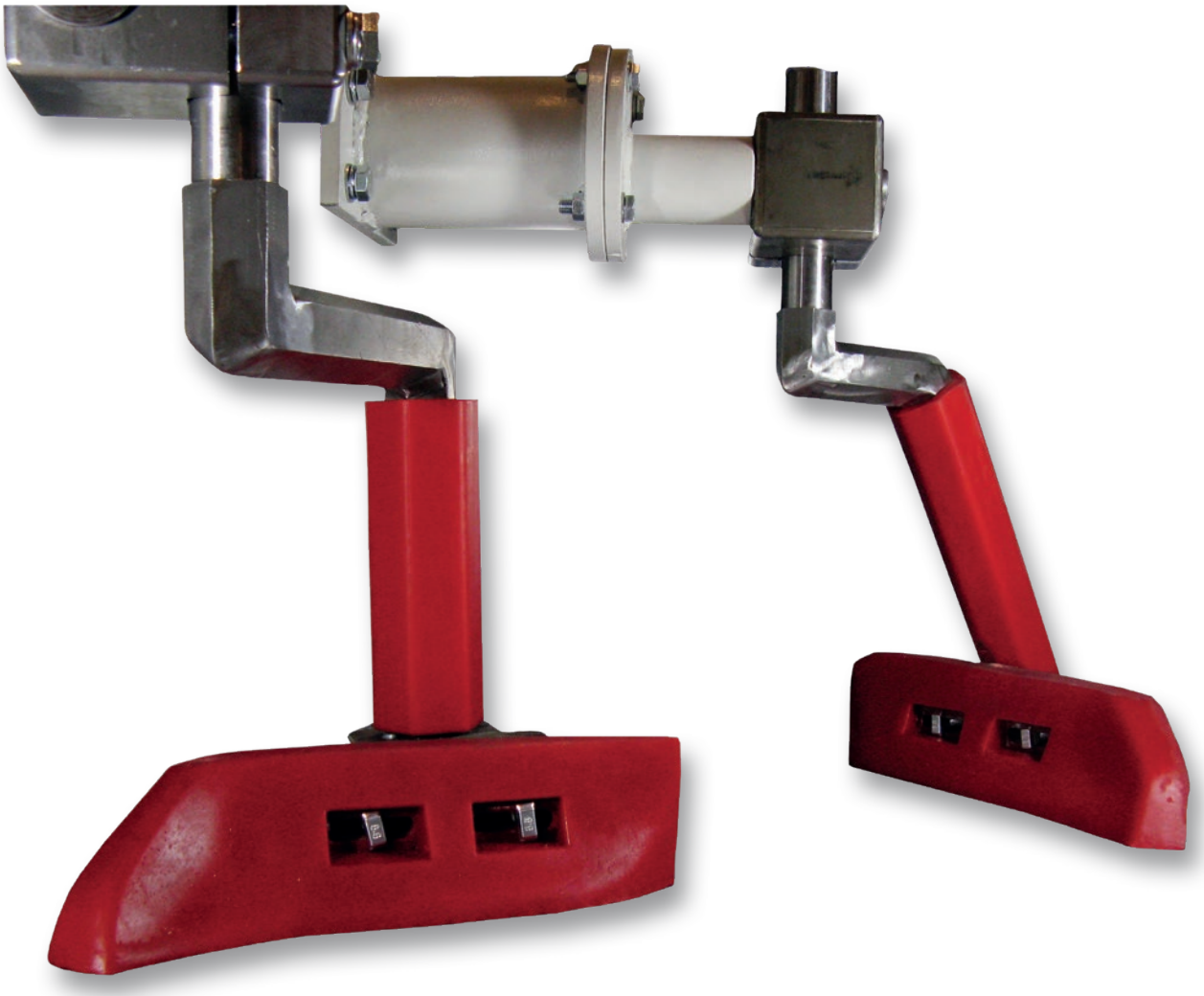
The PUCEST®
UNIVERSAL mixing arm



P 0030

Existing problems

High speed pan mixers regardless of the kind of their origin are subject to the same “illnesses” due to the prolonged operating time. Beginning with arm bearings and ending with a concreted rotor.

It’s a real holiday for every locksmith to renew such a rotor. It’s clear that the cost manager will be “happy” about the heavy bill and the production shutdown.

To avoid this fear the PUCEST® has developed a universal arm. A mixing arm is suitable for every high speed pan mixer provided that its rotor is weldable. The installation is very simple.

The solution - The PUCEST® universal mixing arm

Consisting of:

weld-on plate
console
Bearing unit and clamping unit
Mixing arm
Blade

The best
solution

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The conversion

Mixing arms, spring elements, control levers and other parts are removed from the removed.
Arm open end holes are closed by a plate.

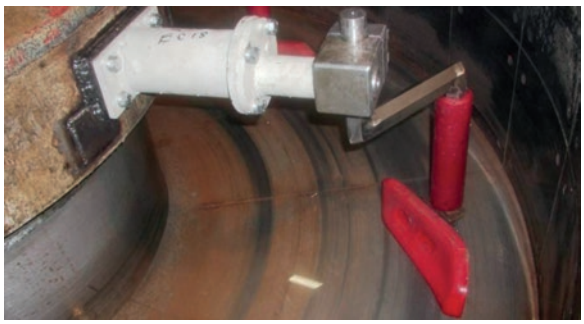
Adapter plates are welded.
The console is fixed by four bolts as the spring unit.
The arm and the mix blades are installed.

A practically new mixer appeared shortly. The advantages over the old variant are convincing:

No mixing arm bearings are getting through the concrete, and paralyzing the springs No springs that can be broken.

An arm which is turned in each direction and thereby can reach an optimal mix result.

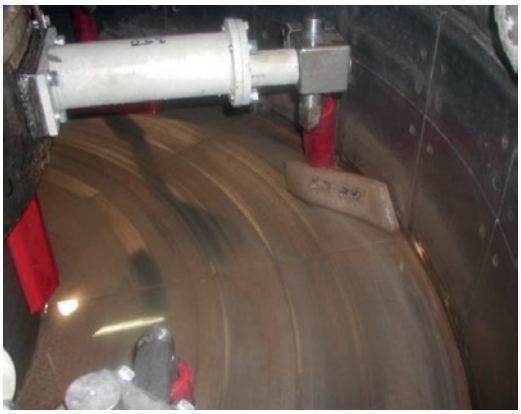
In order to reach a faster emptying a clearing strip can be installed.



For small parts it takes more than 15 minutes to be changed.

Easy installation of the mixing arms and blades allows the system operator to perform this at the same time.

Optimally installed mixing instruments mean less cleaning works and reduced wearing of blade and body.

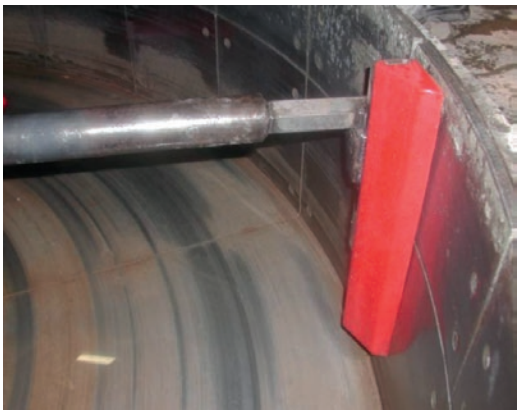


PUCEST® External shovel

PUCEST® universal arm with carbide metal composite blade for external area

PUCEST® External stripper

PUCEST® universal arm with PUCEST® external stripper
by PUCEST® adjustable to all types

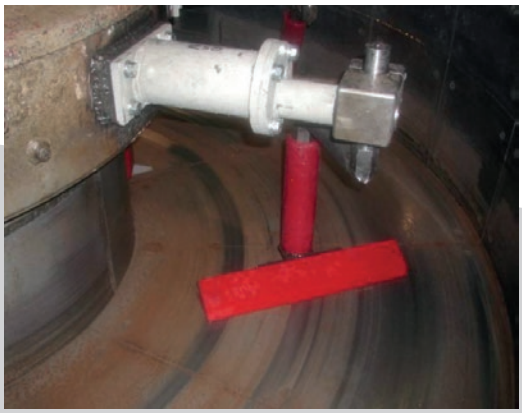


PUCEST® Internal stripper

PUCEST® universal arm with
tow arm und PUCEST® blade

PUCEST® Bottom scrapper

PUCEST® console arm
PUCEST® bottom scrapper for a considerably faster emptying of the mixer and for a more homogeneous mix result



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Mixing machine protection agent MS-2

Geprüft vom TÜVRheinland® LGA

◀ impacts of the wrong mixer protection on PUR parts and rubber parts in the mixer

PUCEST® Mixing machine protection agent MS-2

PUCEST® MS-2 prevents sticking of concrete and cement grout to machines and devices. The available corrosion inhibitor sticks to the metal surface and covers them with a uniform coating. Thus, rough cleaning with a hammer or grinding devices is not necessary. The protection agent is uniformly spread on the surface with the help of a thin brush, a brush or a dispenser after the cleaning and on wet basis or before the machine operation. After the end of operation the machines and devices are sprayed and cleaned with water.

Geprüft vom TÜVRheinland® LGA

- Prevents sticking of concrete and cement grout to the cement-mixers, pumps, concrete mixer trucks, construction trucks etc.
- Simplifies cleaning and substantially extends the equipment lifetime
- Doesn't enter into any kind of chemical reactions with concrete
- Prevents dents, scratches and other damages. The effect may be intensified if used together with PUCEST® TIX protection agent.
- Saves time necessary for repair, saves time and money
- Corrosion-resistant and conserving
- Eliminates even rigid blooming which can't be removed with help of daily cleaning after operation
- Can be applied even if the surface is still wet
- Able of fast biological decomposition and is not regarded as a dangerous cargo

Doesn't influence the normative concrete compressive strength

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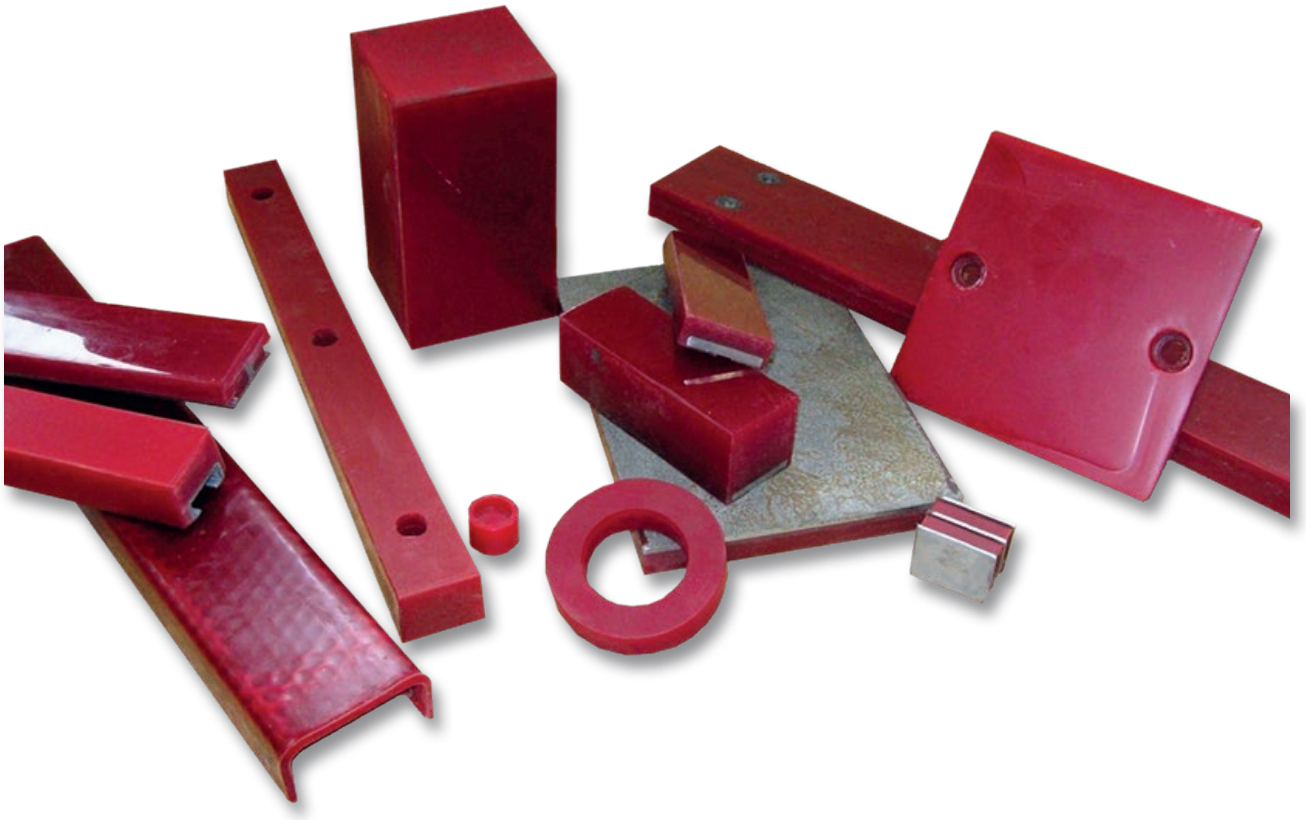
Sealing for the top of mixing machine

Why switch to PUCEST®:

- Short mixing period
- Extreme durability
- Oil- and fat-resistance, mixing machine protective means

PUCEST® wear protection parts

Almost all wear protection parts can be manufactured of PUCEST®. From grab bars and impact strips till buffers



PUCEST® Properties

Degree of hardness	DIN 53 505	ShoreA	55	65	85
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**
Tensile strength	DIN 53 504	N/mm^2	24,6	32,1	47,8
Tear prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7
Elongation at tear	DIN 53 504	%	623	578	478
Rebound resilience	DIN 53 512	%	50	50	43

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Scraper skid

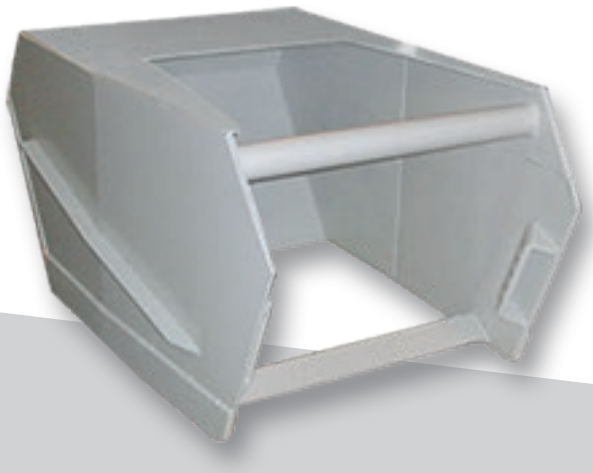
Scraper skids of PUCEST® in different shore hardnesses.

- long service lifetime due to high wear resistance
- good abrasion resistance
- Resistant to moisture
- Resistant to oils and fats, mixers protection
- low temperature sensitivity
- very good weather resistance (not porous
- good noise attenuation

PUCEST® Properties

Degree of Hardness	DIN 53 505	ShoreA	55	65	85	TIX
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**	**41,9**
Tensile strength	DIN 53 504	N/mm^2	24,6	32,1	47,8	...
Tear prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7	...
Elongation at tear	DIN 53 504	%	623	578	478	225
Rebound Resilience	DIN 53 512	%	50	50	43	...
Temperature range	from -30 ° to 80 °, max. during short time up to 100 °					

Also complete scraper can be manufactured



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Wheel loader blade

The perfect solution for your bucket of the wheel loader

The new PUCEST® Wheel loader blade in Silent quality with excellent characteristics:

- Perfect surface cleaning in one stroke
- energy-saving
- surface gentle
- cutting edges on both sides: double useful life as the cutting edge can be easily turned around
- good weather resistance
- good sound insulation

On demand also available as sparking reduced version (incl. screws):

- perfect surface cleaning in one stroke
- energy-saving
- surface gentle
- cutting edges on both sides: double useful life as the cutting edge can be easily turned around
- secure usage in biomass- and composting plants: reduced spark formation during skimming process
- good weather resistance
- good sound insulation

Sparking reduced because of aluminum backing material

Attention:
Please absolutely ensure that the backing material does not get through during usage!!

PUCEST® Properties

Degree of Hardness	DIN 53 505	ShoreA	90
Abrasion	DIN ISO 4649	mm^3	12,4
Tensile strength	DIN 53 504	N/mm^2	45,2
Tear prolongation resistance	DIN ISO 34-1	N/mm	45,7
Elongation at tear	DIN 53 504	%	538
Temperature range	from -30 ° to 80 °, max. during short time up to 100 °		

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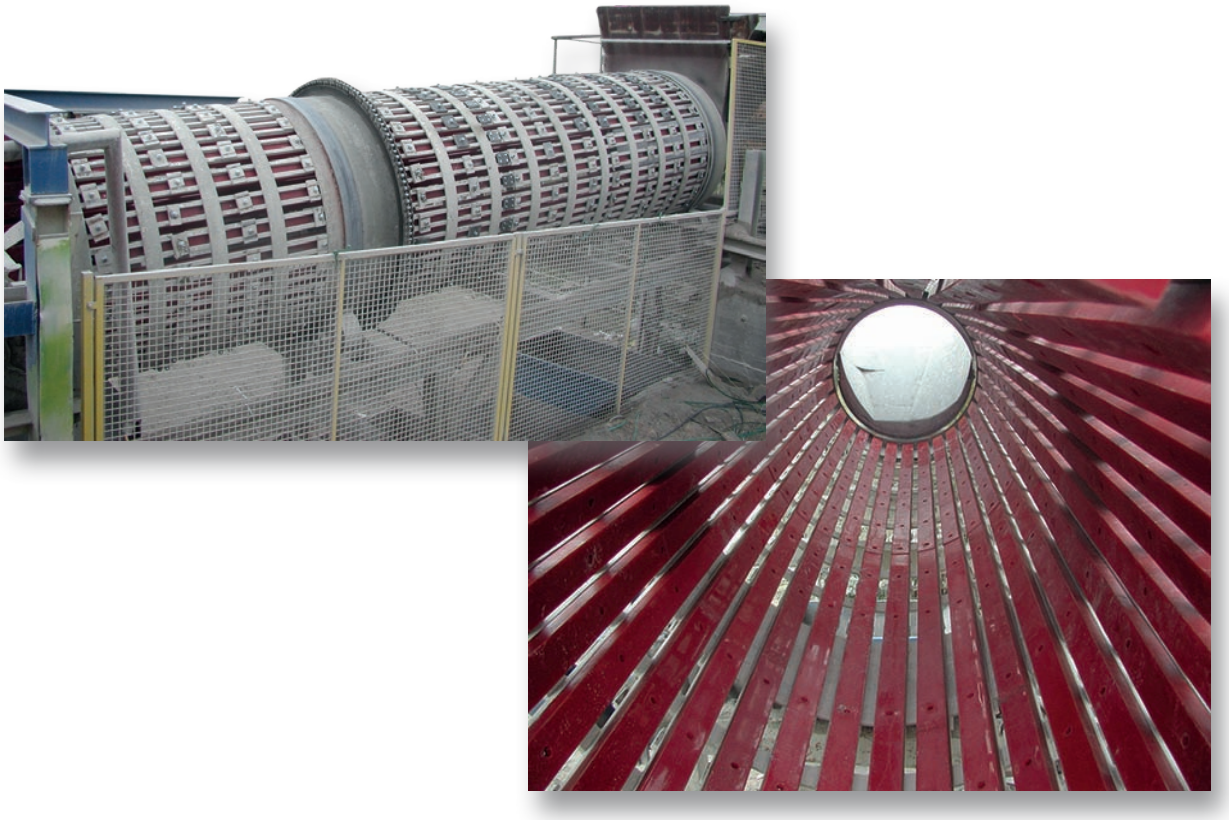
Collar drum housing

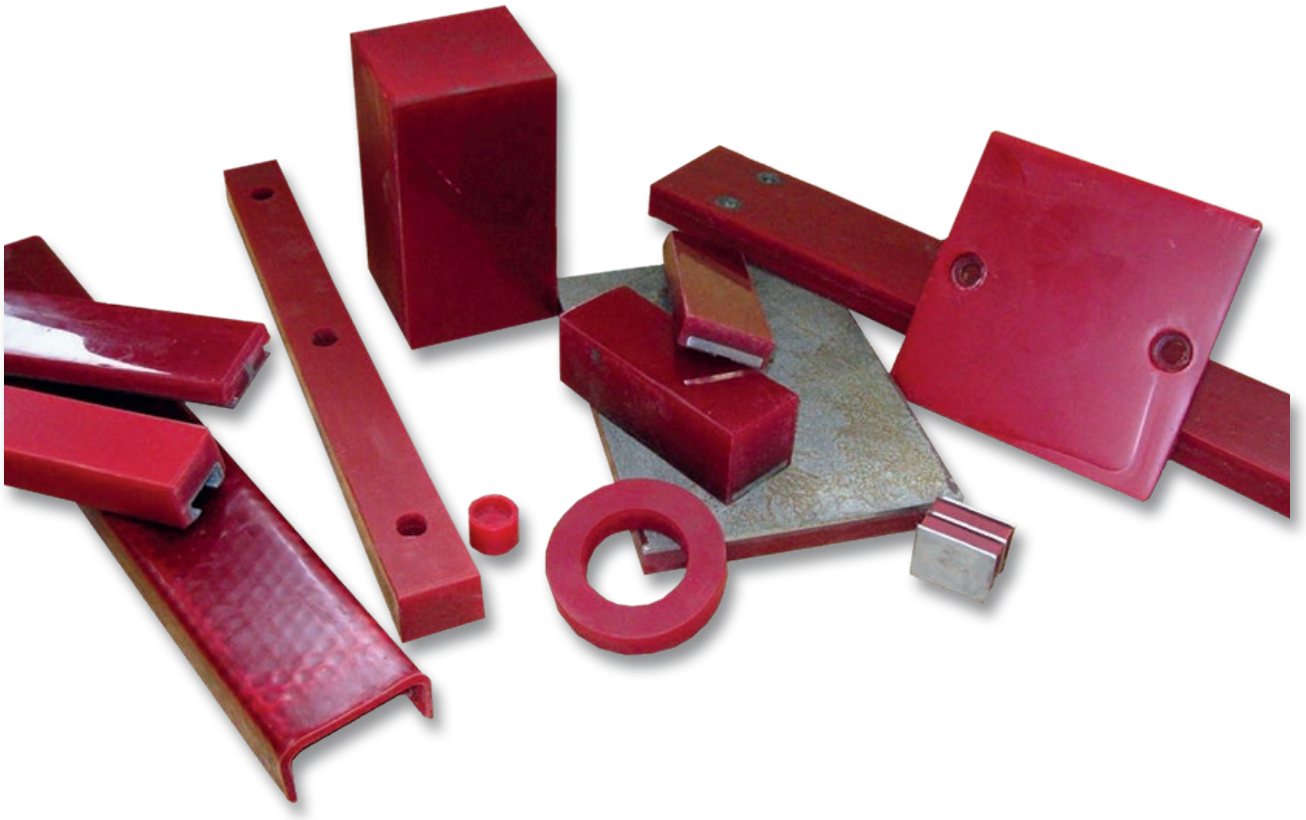


Benefits from changing over to PUCEST®:

- Short downtimes for the exchange of damaged housing parts
- Extremely wear resistant housing

PUCEST® wear protection parts

Almost all wear protection parts can be manufactured of PUCEST®. From grab bars and impact strips till buffers



PUCEST® Properties

Degree of hardness	DIN 53 505	ShoreA	55	65	85
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**
Tensile strength	DIN 53 504	N/mm^2	24,6	32,1	47,8
Tear prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7
Elongation at tear	DIN 53 504	%	623	578	478
Rebound resilience	DIN 53 512	%	50	50	43

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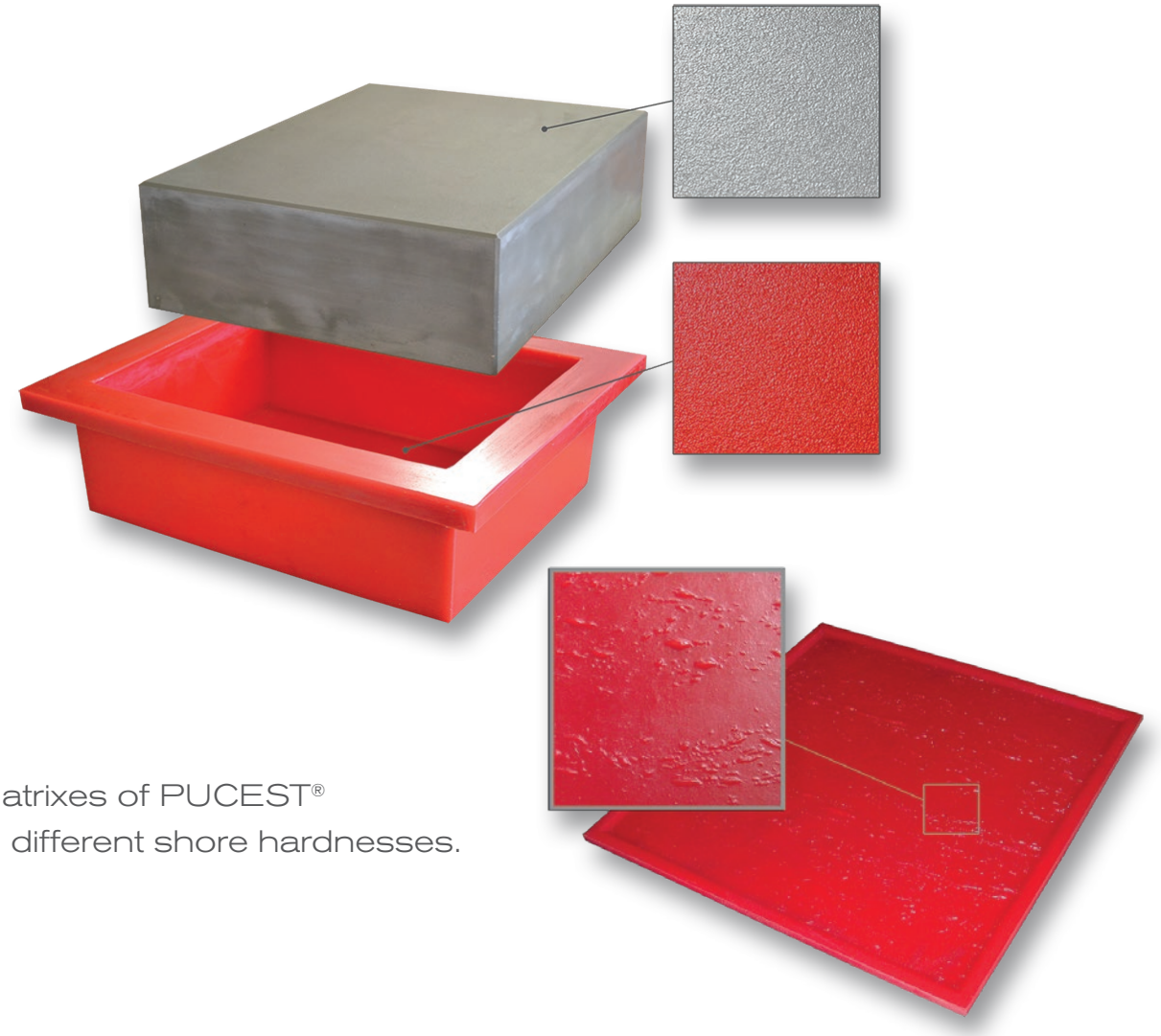
PUCEST® protect GmbH

Matrixes and Moulds
for the concrete component industry



Matrixes of PUCEST®
in different shore hardnesses.

- long Service lifetime due to high wear resistance
- good Abrasion resistance
- Resistent to moisture
- Resistent to olis and fats, Mixers protection
- low temperature sensitvity

PUCEST® Properties

Degree of hardness	DIN 53 505	ShoreA	55	65	85
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**
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Tear prolongation resistance	DIN ISO 34-1	N/mm	18,7	21,4	34,7
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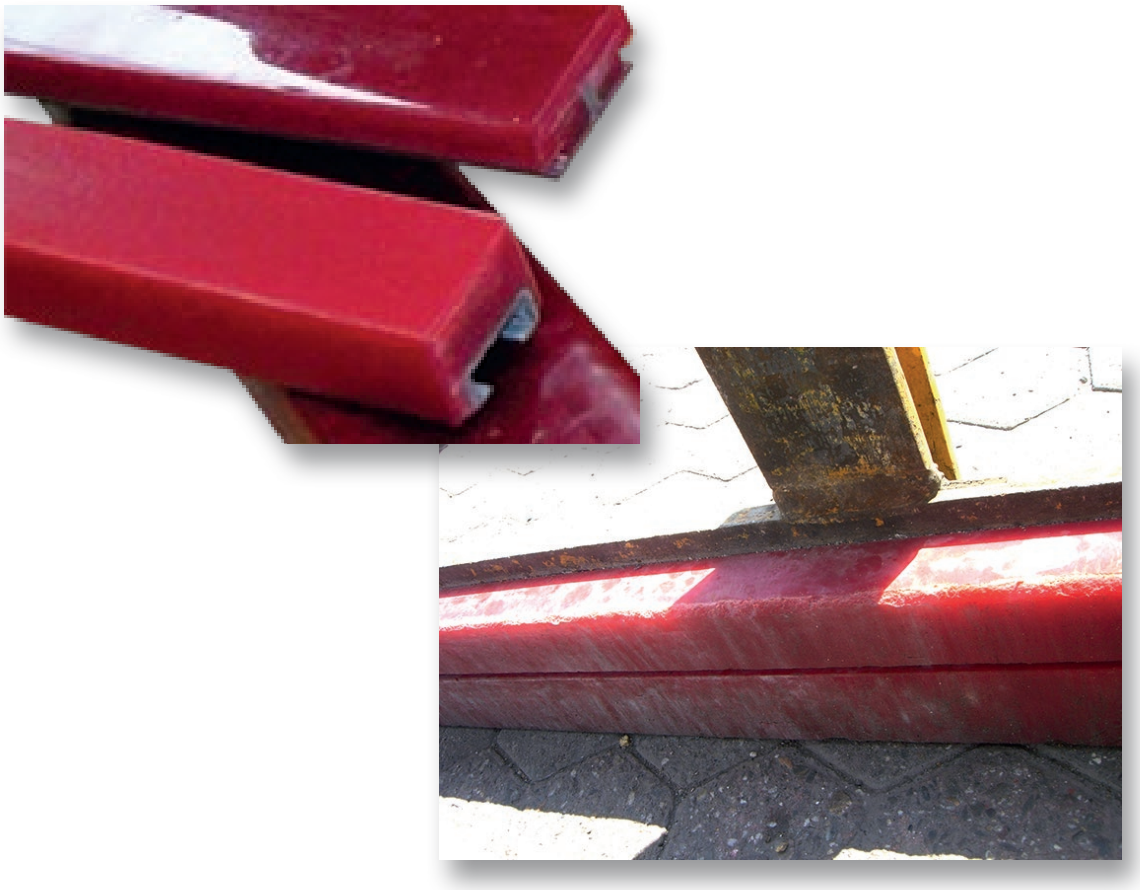
Gripper bars

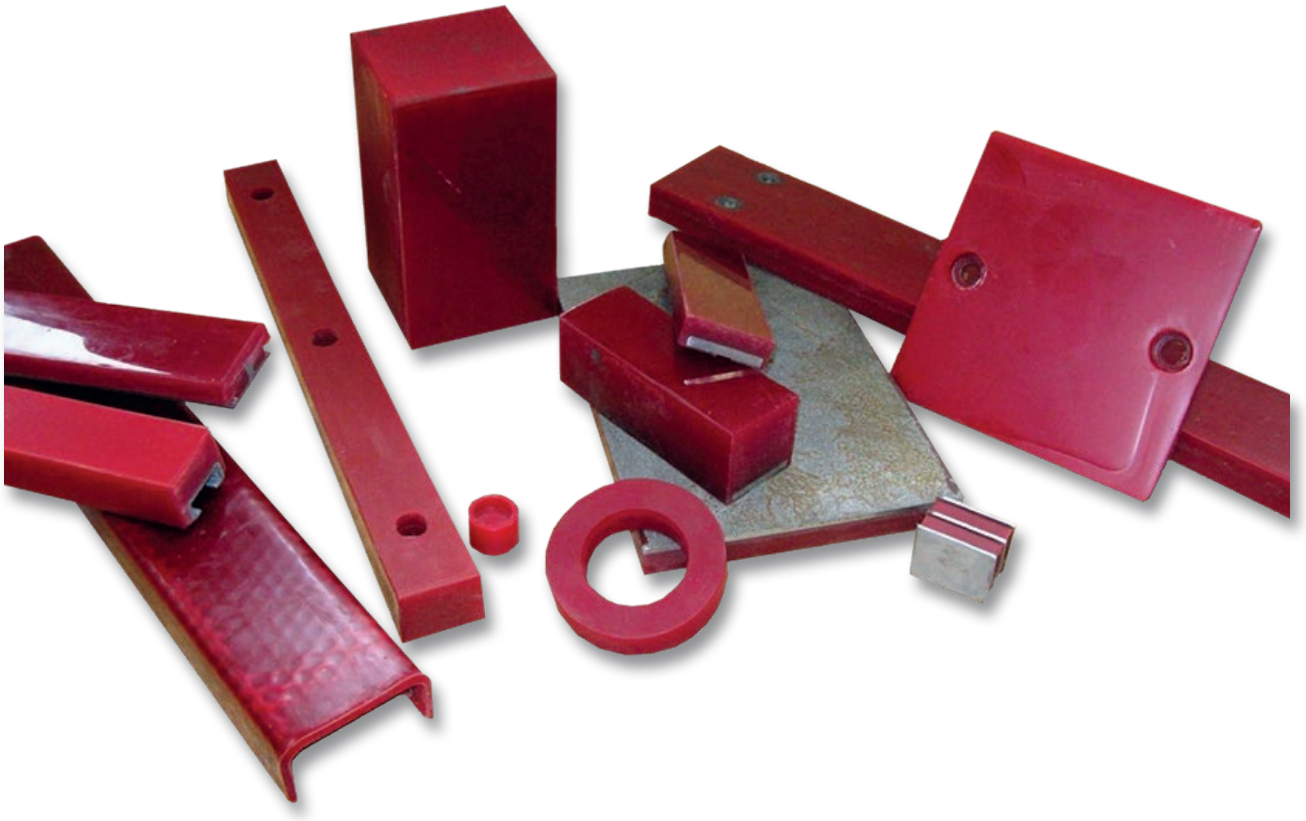


Benefits from changing over to PUCEST®

- Short downtimes for the exchange
- Extremely Resistanz to wear

PUCEST® wear protection parts

Almost all wear protection parts can be manufactured of PUCEST®. From grab bars and impact strips till buffers



PUCEST® Properties

Degree of hardness	DIN 53 505	ShoreA	55	65	85
Abrasion	DIN ISO 4649	mm^3	**6,3**	**5,3**	**8,8**
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Pivor arm for the hoppers

with pneumatic driver

Simplifies the directed proper feeding of the hopper

Scope of spply includes:

- Full pivot arm constrution including the mating part for assembling
- Full pneumatic drive set
- High durability PUCEST® outlet spout

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Elevator bowl according to DIN

- Standard Elevator bowl according to DIN
- Prompt delievery, resonable prices
- All the models and dimensions Are availible for shipment (bulged or disk-shaped, no problem)
- An Option of improved edges and bevels for covering with Hard coarting (shear line)

Elevator bowl with flexible bottom

- Proper and complete discharging of the bowls through the flexible PUCEST® bottom
- Extremely durable and weahter-resistant flexible PUCEST® bottom
- All the Models and the dimensions availible for shipment (bulged or disk-shapes,no problem)
- An option of improved edges and bevels for covering with hard coating (shear line)

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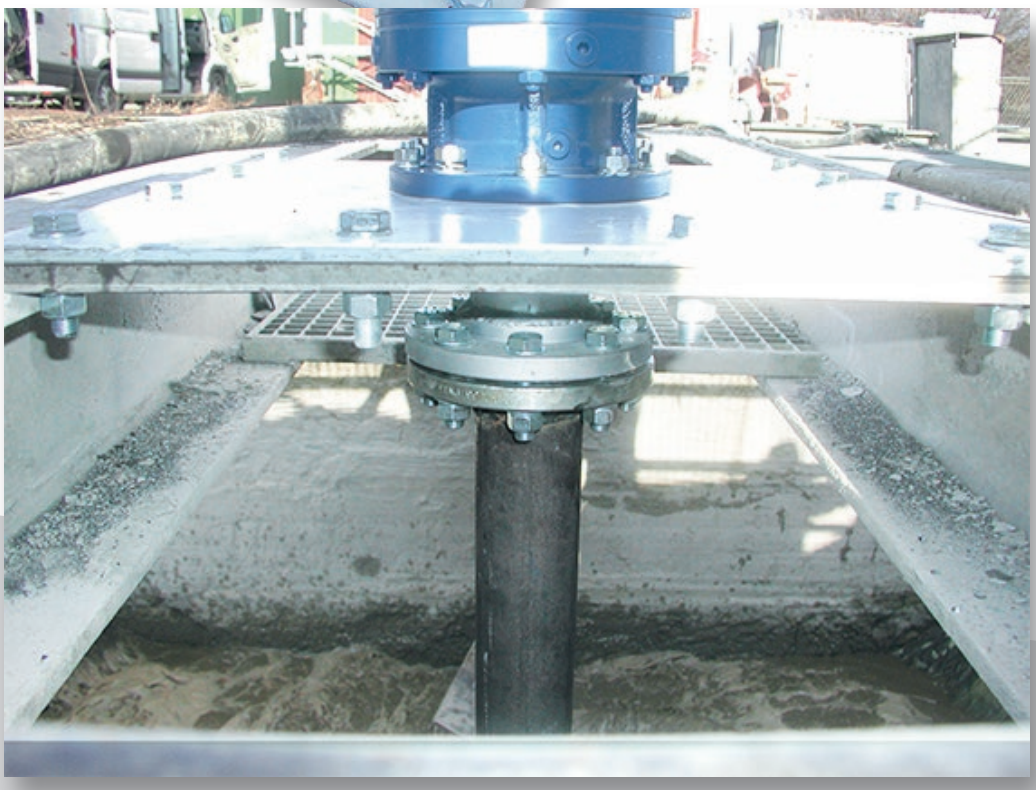
PUCEST® protect GmbH

Agitator
for cement sludge

Complete Mixer package, including the planetary gearing engine (5,5kW)

P 0040

Details



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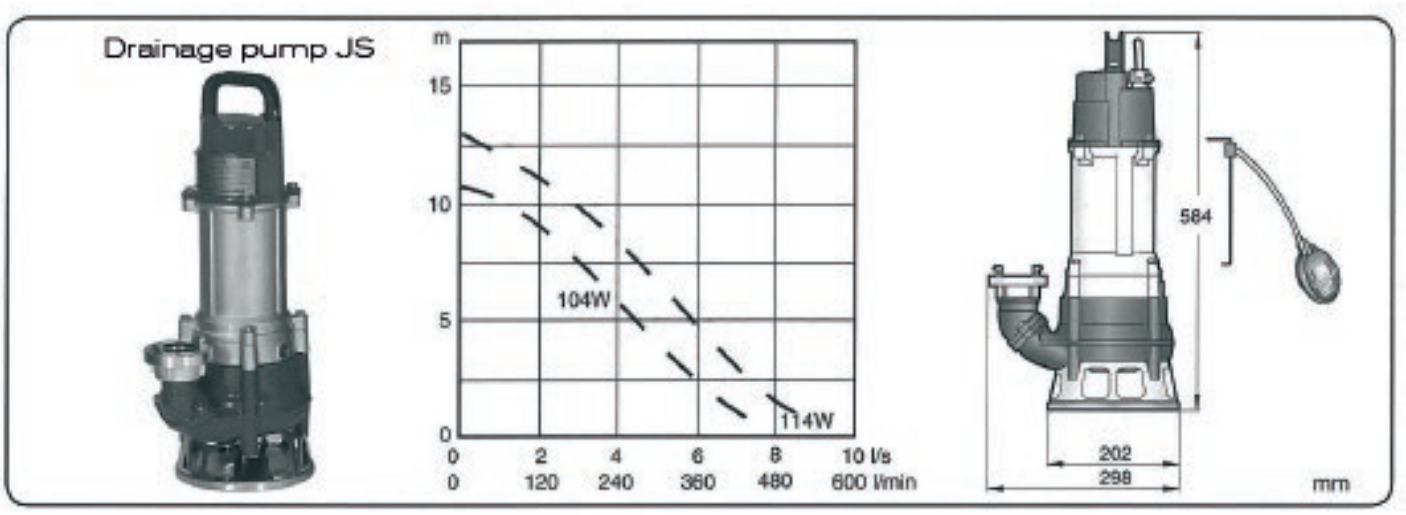
PUCEST® submersible pump

P 0041



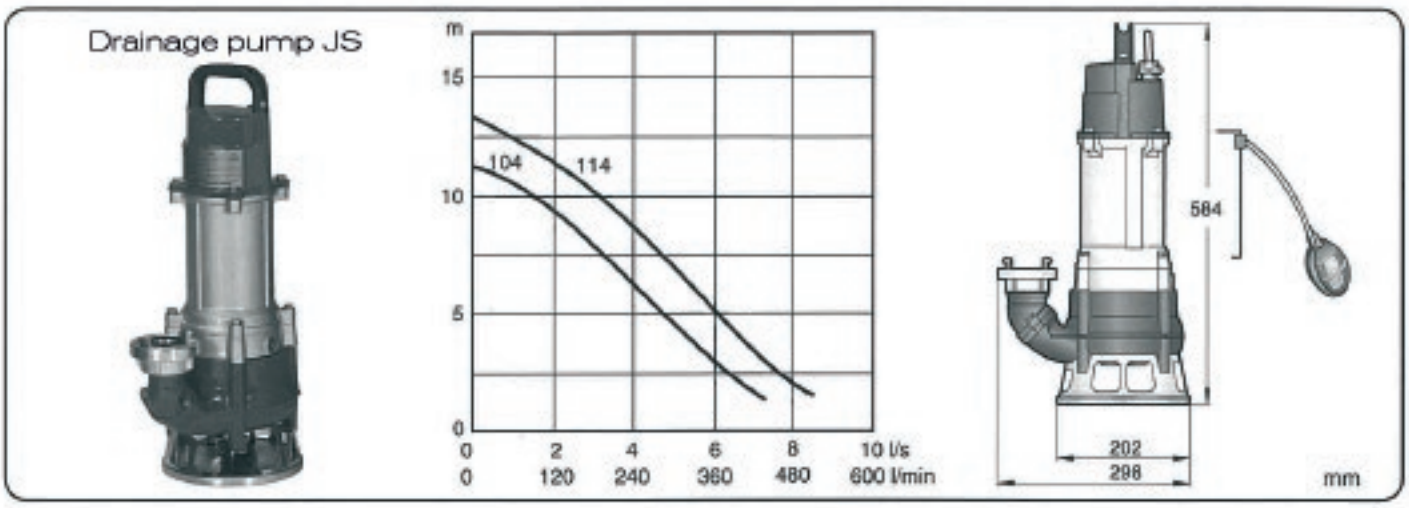
Type of pump	**JS 12 W104**	**JS 12 W114***	**JS 12 WKS114***
tension	230 V / 50 Hz	230 V / 50 Hz	230 V / 50 Hz
nominal capacity P_2	0,9 kW	0,9 kW	0,9 kW
nominal current	5,1 A	5,1 A	5,1 A
therm. winding cover	ja	ja	ja
floating switch	nein	nein	ja
impeller	Ø 104 mm	Ø 114 mm	Ø 114 mm
free ball passage	40 mm	40 mm	40 mm
pipe S1BN8-F	20 m / 3G1,5	20 m / 3G1,5	20 m / 3G1,5
plug	Schuko	Schuko	Schuko
standard printer connection	G 2“ (Store C)	G 2“ (Store C)	G 2“ (Store C)
weight without cable	18 kg	18 kg	18 kg

JS Standard (inkl. Storz)	item number	0 083 1416E	0 083 1436E	0 083 1417E

JS Profiline (incl. Storz C, with motor protection plug and 20 m holding rope)

(inkl. Storz)	item number	0 083 1416P	0 083 1436P	0 083 1417P

Attention: Pumps which are marked with * have to be changed at full load.

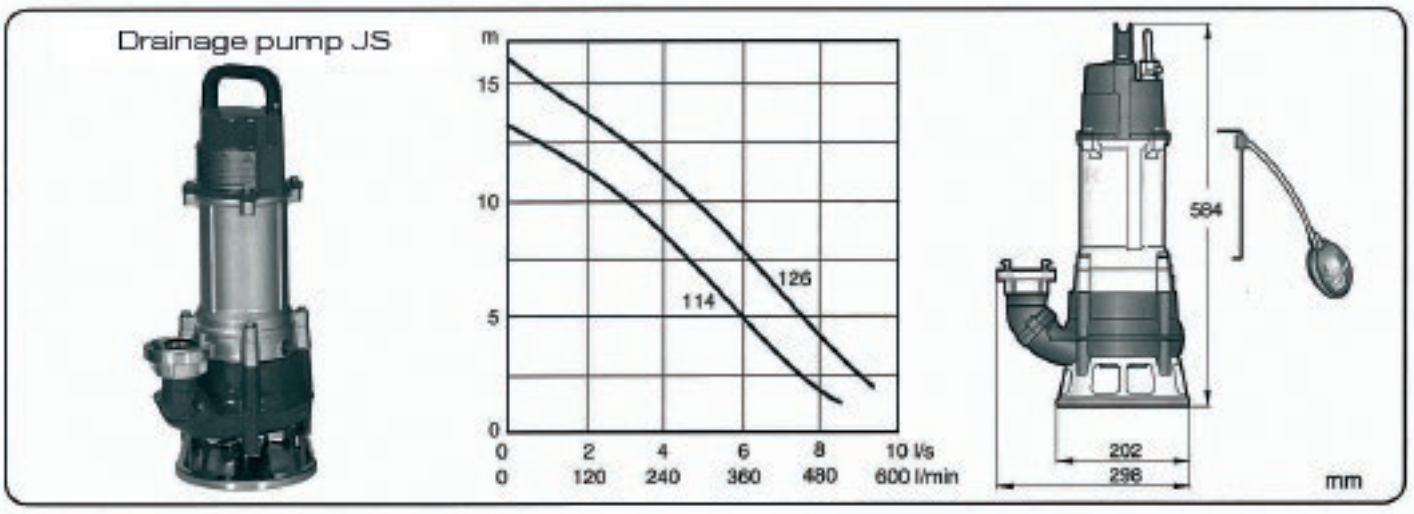


Type of pump	**JS 12 W104**	**JS 12 W114***	**JS 12 DKS114***
tension	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz
nominal capacity P_2	0,9 kW	0,9 kW	0,9 kW
nominal current	1,9 A	1,9 A	1,9 A
therm. winding cover	ja	ja	ja
floating switch	nein	nein	ja
impeller	Ø 104 mm	Ø 114 mm	Ø 114 mm
free ball passage	40 mm	40 mm	40 mm
pipe S1BN8-F	20 m / 4G1,5	20 m / 4G1,5	20 m / 4G1,5
plug	CEE 16A	CEE 16A	CEE 16A
standard printer connection	G 2“ (Store C)	G 2“ (Store C)	G 2“ (Store C)
weight without cable	18 kg	18 kg	18 kg

JS Standard (inkl. Storz)	item number	0 083 1418E	0 083 1437E	0 083 1419E

JS Profiline (incl. Storz C, with motor protection plug and 20 m holding rope)

with motor protection plug	item number	0 083 1418P16	0 083 1418P16	0 083 1418P16
with motor protection plug	item number	0 083 1418P32	0 083 1437P32	0 083 1419P32



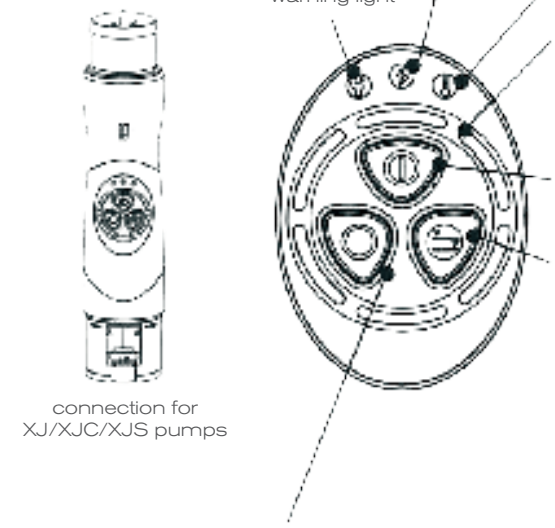
Type of pump	**JS 15 W104**	**JS 15 W114***	**JS 15 DKS114***
tension	400 V / 50 Hz	400 V / 50 Hz	400 V / 50 Hz
nominal capacity P_2	1,3 kW	1,3 kW	1,3 kW
nominal current	2,6 A	2,6 A	2,6 A
therm. winding cover	ja	ja	ja
floating switch	nein	nein	ja
impeller	Ø 114 mm	Ø 126 mm	Ø 126 mm
free ball passage	40 mm	40 mm	40 mm
pipe S1BN8-F	20 m / 4G1,5	20 m / 4G1,5	20 m / 4G1,5
plug	CEE 16A	CEE 16A	CEE 16A
standard printer connection	G 3“ (Store C)	G 3“ (Store C)	G 3“ (Store C)
weight without cable	18 kg	18 kg	18 kg

JS Standard (inkl. Storz)	item number	0 083 1420E	0 083 1438E	0 083 1421E
JS Profiline (incl. Storz C, with motor protection plug and 20 m holding rope)				
with motor protection plug	item number	0 083 1420P16	0 083 1438P16	0 083 1421P16
with motor protection plug	item number	0 083 1420P32	0 083 1438P32	0 083 1421P32

AquaPlug

The AquaPlug monitoring and surveillance module offers an automatic stop/start, a malfunction and maintenance indicator and alternatively a level control.

AquaPlug functions



Power indicator. The normal power indicator lights up green. The warning light lights up red.

overheating warning light

The lighting ring shows the status of the pump:

- Green light – pump is running
- Red light blinks – the pump was stopped due to an alarm
- Blue light – pump is in energy-saving modeDie rote Taste dient zum Anhalten der Pumpe.

The red button is used for stopping the pump. The button lights up red, if the pump is stopping.

The blue button activates the energy-saving mode (automatically on/off). The button lights up blue, if the energy-saving mode is activated. The button blinks blue, if the pump was stopped during the energy-saving mode.

The green button switches the permanent operation mode on. This operating mode is enabled by default after the start. While the pump is running, the button lights up green. During the synchronization, the button blinks green.

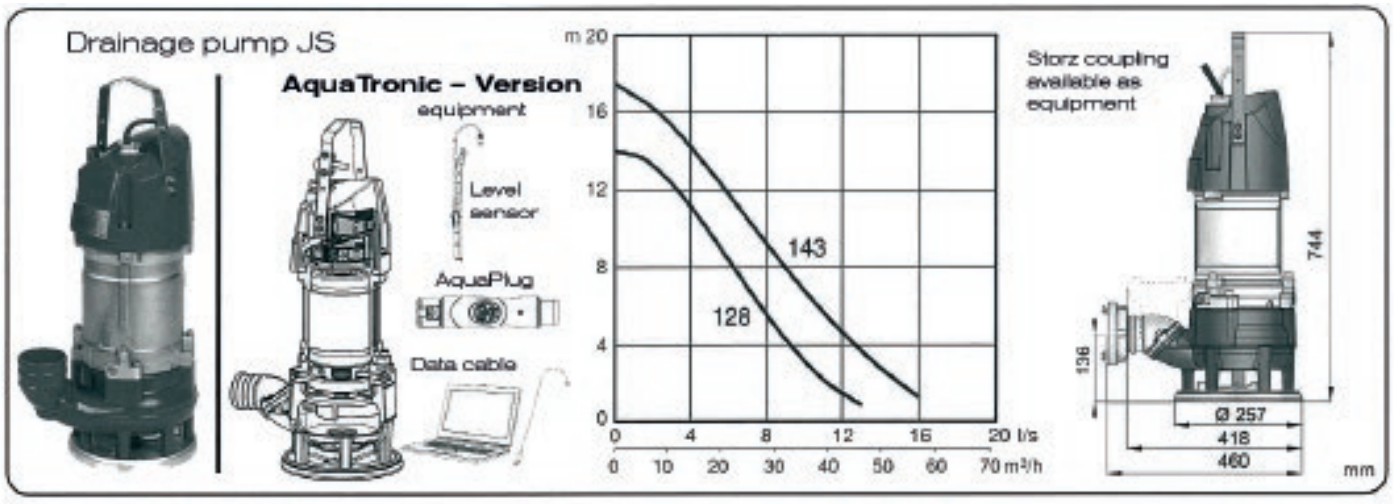
Energy-saving mode

There are two ways to switch the pump with AquaTronic into the energy-saving mode (with pushed blue button).

1. The water level indicator, which is connected with the pump, notices the water level and activates the pump, when the water has reached the sensor. The device is stopped automatically, when the water level sinks and is below the hydraulic components. The pump is activated again, when the water touches the sensor.
2. If no sensor is connected with the pump, the pump is activated and stopped by temperature fluctuations, which are noticed by the motor while the water level is below the hydraulic components.

Alarm and warning signals

alarm signal (pump stops)	**warning signal** (pump stays in use)	**threshold value**	**symbol**
overheating warning light: maximum temperature winding		140 °C	red
overheating warning light: maximum temperature AquaTronic		soft start 80°C DOL 110°C	red
overheating warning light: high amplitude		At curve +20 % with long overload	red
service warning light: phase is missing (under tension)		-15 %	red
service warning light: phase inequality		20%	red
	service warning light: leak in sealing	50kOhm	yellow
	service warning light: isolation of motor damaged	100 kOhm	yellow



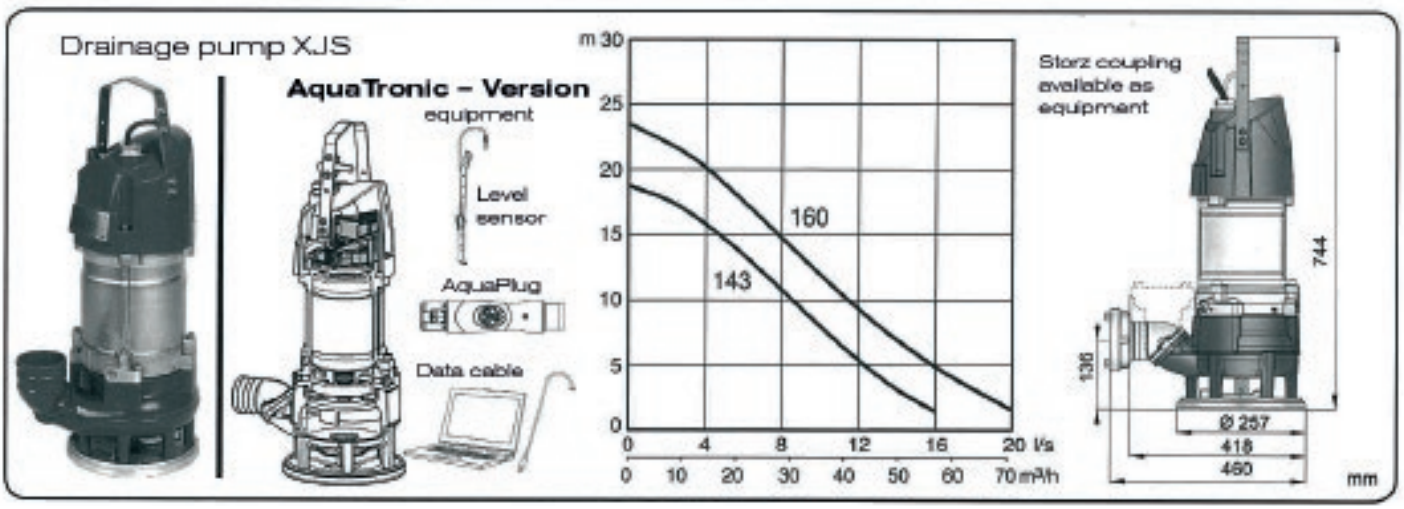
Type of pump	XJS 25 D-128	XJS 25 D-143
tension	400 V / 50 Hz	400 V / 50 Hz
nominal capacity P_2	2,5 kW	2,5 kW
nominal current	5,1 A	5,1 A
therm. winding cover	ja	ja
impeller	Ø 128 mm	Ø 143 mm
free ball passage	45 mm	45 mm
pipe S1BN8-F	20 m / 4G1,5	20 m / 4G1,5
plug	CEE 16A	CEE 16A
standard printer connection (not included in shipment)	G 3“ (Store B)	G 3“ (Store B)
weight without cable	39 kg	39 kg

JS Standard	item number	0 086 0015E	-
JS Profiline (with motor protection plug and 20 m holding rope)			
with motor protection plug 16A	item number	0 086 0015P16	-
with motor protection plug 32A	item number	0 083 1420P32	-
JS Standard inkl. AquaPlug	item number	0 086 0098	0 086 0005

Equipment

printer connection (Storz)	item number	0 083 0344	0 083 0344
	item number	Storz B	Storz B

AquaTronic – Equipment		XJS 25 D-128 AT	XJS 25 D-143 AT
Level sensor	item number	0 086 3104	0 086 3104
Holder for level sensor	item number	0 086 3191	0 086 3191
Data cable	item number	0 086 3329	0 086 3329

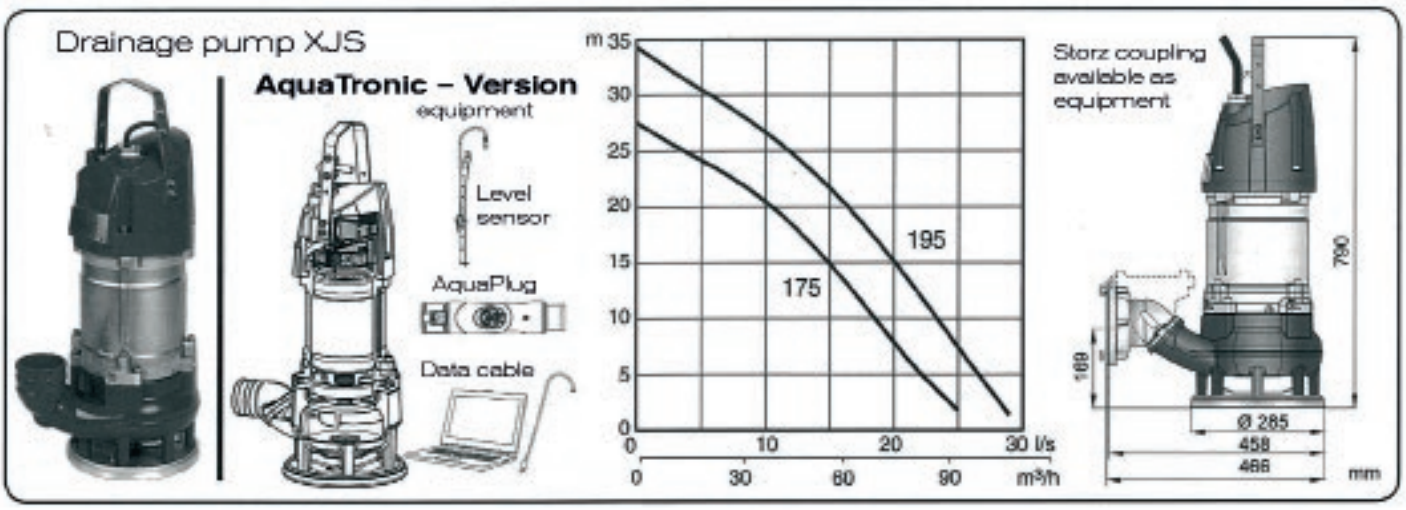


Type of pump	**XJS 25 D-143**	**XJS 25 D-160**
tension	400 V / 50 Hz	400 V / 50 Hz
nominal capacity P_2	3,7 kW	3,7 kW
nominal current	7,6 A	7,6 A
therm. winding cover	ja	ja
impeller	Ø 143 mm	Ø 160 mm
free ball passage	45 mm	45 mm
pipe S1BN8-F	20 m / 4G1,5	20 m / 4G1,5
plug	CEE 16A	CEE 16A
standard printer connection	G 3“ (Store B)	G 3“ (Store B)
weight without cable	41 kg	41 kg

JS Standard	item number	0 086 0014	-
JS Profiline (with motor protection plug and 20 m holding rope)			
with motor protection plug 16A	item number	0 086 0014P16	-
with motor protection plug 32A	item number	0 083 001420P32	-
JS Standard inkl. AquaPlug	item number	0 086 0099	0 086 0004

Equipment			
printer connection (Storz)	item number	0 083 0344	0 083 0344
	connection size	Storz B	Storz B

AquaTronic – Equipment		**XJS 40 D-143 AT**	**XJS 40 D-160 AT**
Level sensor	item number	0 086 3104	0 086 3104
Holder for level sensor	item number	0 086 3191	0 086 3191
Data cable	item number	0 086 3329	0 086 3329



Type of pump	**XJS 50 D-175**	**XJS 50 D-195**
tension	400 V / 50 Hz	400 V / 50 Hz
nominal capacity P_2	8,3 kW	8,3 kW
nominal current	16 A	16 A
therm. winding cover	ja	ja
impeller	Ø 175 mm	Ø 195 mm
free ball passage	48 mm	48 mm
pipe S1BN8-F	20 m / 4G2,5	20 m / 4G2,5
plug	CEE 16A	CEE 16A
standard printer connection	G 4“ (Store A)	G 4“ (Store A)
weight without cable	64 kg	64 kg

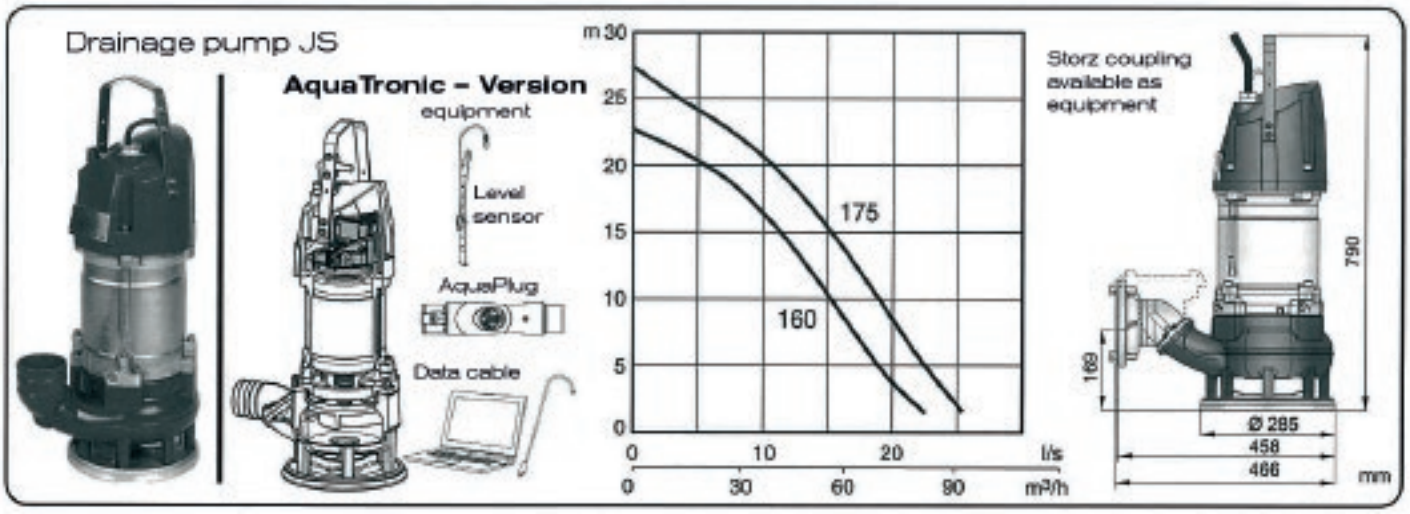
JS Standard	item number	0 086 0011	-
JS Profiline (with motor protection plug and 20 m holding rope)			
with motor protection plug 16A	item number	0 086 0011P16	-
with motor protection plug 32A	item number	0 086 0011P32	-
JS Standard inkl. AquaPlug	item number	0 086 0101	0 086 0001

Equipment

printer connection (Storz)	item number	0 083 0345	0 083 0345
	connection size	Storz A	Storz A

AquaTronic – Equipment		**XJS 50 D-160 AT**	**XJS 50 D-175 AT**
Level sensor	item number	0 086 3104	0 086 3104
Holder for level sensor	item number	0 086 3191	0 086 3191
Data cable	item number	0 086 3329	0 086 3329

*already included in version XJ AquaTronic



Type of pump	**XJS 50 D-160**	**XJS 50 D-175**
tension	400 V / 50 Hz	400 V / 50 Hz
nominal capacity P_2	5,6 kW	5,6 kW
nominal current	11,3 A	11,3 A
therm. winding cover	ja	ja
impeller	Ø 160 mm	Ø 175 mm
free ball passage	48 mm	48 mm
pipe S1BN8-F	20 m / 4G1,5	20 m / 4G1,5
plug	CEE 16A	CEE 16A
standard printer connection	G 4“ (Store A)	G 4“ (Store A)
weight without cable	59 kg	59 kg

JS Standard	item number	0 086 0013	-
JS Profiline (with motor protection plug and 20 m holding rope)			
with motor protection plug 16A	item number	0 086 0013P16	-
with motor protection plug 32A	item number	0 086 0013P32	-
JS Standard inkl. AquaPlug	item number	0 086 0100	0 086 0003

Equipment

printer connection (Storz)	item number	0 083 0345	0 083 0345
	connection size	Storz A	Storz A

AquaTronic – Equipment		**XJS 50 D-160 AT**	**XJS 50 D-175 AT**
Level sensor	item number	0 086 3104	0 086 3104
Holder for level sensor	item number	0 086 3191	0 086 3191
Data cable	item number	0 086 3329	0 086 3329

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