

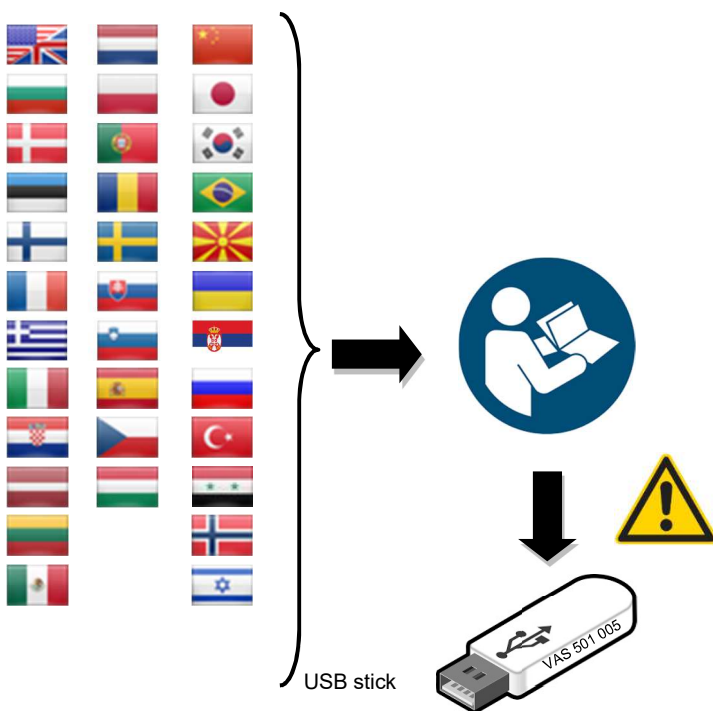
Original Operation Manual

(Ursprungssprache: Deutsch / Original language: German)

PES round sling DIN EN 1492-2
Work load limit 1,000 kg, purple
Circumference: 5,000 mm
Usable length: 2,500 mm, with 2 x 1.0 m
PVC abrasion protection on the single strand



VW AG | VAS 501 005



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ZP/B024/16-GS

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Contents

Fundamentals 4

Selecting the sling gear 8

Commissioning the round sling 8

Identification of the round sling 9

Transporting the load 12

Moving the load..... 13

Setting down the load 13

Important instructions for use and warnings..... 15

Storing and using the special round sling 17

Inspection and maintenance 18

General Hazard Warnings..... 19



EC declaration of conformity..... 20

Contact..... 20

Fundamentals

Safety

This operation manual is part of the scope of delivery. Always keep it close at hand. To avoid personal injury or material damage, observe the safety instructions in the operation manual.

 CAUTION	
	Before commissioning, make sure to read and follow the operation manual.
Failure to comply with safety and security regulations results in: Serious injury and product defects	
<ul style="list-style-type: none">➤ Observe the safety instructions in the operation manual.➤ Carefully read the operation manual in full!➤ This product may only be used by persons who have been commissioned and instructed by the owner.	

Structure of safety instructions

This operation manual uses the following designations and symbols for hazardous situations, based on the harmonization of DIN EN ISO 7010, IEC 82079 and ANSI Z.535.6.

Warning levels

Depending on the severity and probability of their consequences, dangers are indicated by a signal word and associated warning color and, where appropriate, the safety symbol.



WARNING

Indicates a hazardous situation that could lead to death or serious (irreversible) injuries unless it is avoided.



CAUTION

Indicates a hazardous situation that could lead to moderate or minor (reversible) injuries unless it is avoided.

CAUTION

Indicates a situation that could lead to damage to the product and/or its function, or to an object in its vicinity, unless the situation is avoided.

Safety symbol



The safety symbol indicates potential **sources of injury**.

Follow all the instructions associated with the safety symbol in order to avoid injuries or death.



CAUTION

The term round sling

Endless flexible sling made of load-bearing core yarn that is fully enclosed in a woven cover, fittings are optional.

This special round sling with a PVC cover is designed for a specific slinging operation and may only be used for this slinging operation. Observe the generally applicable information in DGUV 100-500.

Only use the round sling with the PVC cover for lifting and transporting the loads specified in the **corresponding round sling repair manual**.

The operation manual applies to the following products:

- **PES round sling DIN EN 1492-2**
- **Working load limit 1,000 kg, purple**
- **Circumference: 5,000 mm, Usable length: 2,500 mm**
- **Webbing width: 50 mm**
- **with 2 x 1.0 m PVC abrasion protection on the single strand**





Particular reference is made to the following applicable regulations and technical rules:

- DIN EN 1492-2 Round slings made of man-made fibers
- DGUV 100-500 Operation of lifting equipment for lifting operations
- DGUV Information 209-061 – Use of webbing slings and round slings made of man-made fibers
- DGUV Information 209-013 – Slingers/signalmen

If applicable, additional special regulations should be taken into consideration, e.g. when transporting hazardous substances.

General safety instructions



 WARNING	
	Lifting loads involves dangers that may result in the load falling if the rules are not observed, resulting in death or severe injuries.
	Protect yourself by wearing personal protective equipment. When transporting loads, always wear a hard hat, work shoes and gloves.
	There is a risk of trapping limbs. Never reach between the load and the webbing sling.

Selecting the sling gear



CAUTION

- Select sling gear of a type, length and fastening method that are appropriate to the load for the intended transport and are able to hold the load securely without inadvertent movements. An unsuitable choice of load bearing capacity and/or slinging method may result in breakage.



WARNING

- The round sling must not be used with sharp-edged loads. The PVC protective cover attached to the sling is a wear sleeve and is not designed to protect against cuts. Its use is possible if additional edge protectors, such as at least 5 mm thick PU, or a special cut-protection cover, are used. Do not use at temperatures outside the ranges -40°C to +100°C (PES and PA) or -40°C to +80°C (PP).

The round sling must never be loaded beyond its load bearing capacity.

Commissioning the round sling



CAUTION

Before using the round sling for the first time, check whether its identification label and dimensions are correct. Never use a product that is worn or damaged or whose ID label is missing.

Identification of the round sling

The label required by DIN EN 1492-2 is stitched into the round sling. The label contains the following information:

WLL = Working load limit in the direct slinging method, specified in kg

- Material:
PES = polyester, blue label
- Usable length in meters
- Year of manufacture
- Manufacturer's identifier DD
- Traceability code
- CE mark
- Specification of applicable standards
- Load bearing capacity with conventional slinging methods






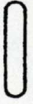




The label also includes application-specific identifiers.

<div style="background-color: #00a0e3; color: white; padding: 10px;"> <p style="font-size: 1.2em; font-weight: bold;">WLL 1,0 t</p> <p style="font-weight: bold;">Werkstoff: PES</p> <p style="font-size: 1.1em;">Länge L₁ 2,5 m</p> <p style="font-weight: bold;">Herstelljahr 2018</p> <p style="font-size: 1.2em; font-weight: bold;">Dolezych</p> <p style="font-weight: bold;">Hartmannstr. 8 D-44147 Dortmund</p> <div style="display: flex; justify-content: space-around; align-items: center;"> </div> <p style="font-weight: bold;">VAS 501 005</p> <p style="font-weight: bold;">DD</p> <p style="font-weight: bold;">86585802001</p> <p style="font-weight: bold;">made in Europe</p> <p style="font-weight: bold;">EN 1492-2</p> <div style="text-align: right; font-size: 2em; font-weight: bold;">CE</div> </div>	<div style="background-color: #00a0e3; color: white; padding: 10px;"> <p style="font-size: 1.2em; font-weight: bold;">22 23</p> <div style="display: flex; justify-content: space-around; align-items: center;"> </div> <p style="font-weight: bold;">einfach WLL doppelt</p> <p style="font-size: 1.2em; font-weight: bold;">1,0 t 2,0</p> <hr/> <p style="font-weight: bold;">geschnürt</p> <div style="display: flex; justify-content: center; align-items: center;"> </div> <p style="font-size: 1.2em; font-weight: bold;">0,8 t</p> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> </div> <p style="font-size: 1.2em; font-weight: bold;">1,4 t</p> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> </div> <p style="font-size: 1.2em; font-weight: bold;">1,0 t</p> </div>	<p>Besitzerinformation für textile Anschlagmittel wie Mehrweg-Hebebänder und Rundschnügel</p> <ul style="list-style-type: none"> • Anschlagmittel zum Heben und Transportieren von Lasten dürfen nur von unversehrten und beschrifteten Personen verwendet werden. • Anschlagmittel niemals über ihre Tragfähigkeit (WLL) hinaus belastet. Gegebenenfalls Anschlagpunkte und Anschlagere auswählen, z.B. Gewicht, Schwerkraft, Anschlagere und Größe der Last. • Der Neigungswinkel darf maximal 60° betragen! Die Tragfähigkeit WLL reduziert sich mit zunehmender Neigungswinkel. Eine falsche Auswahl oder zu große Neigungswinkel können zur Überbeanspruchung des Anschlagmittels und zum Landeinsturz führen! • Anschlagmittel vor jedem Einsatz auf Schäden überprüfen. Reparaturen dürfen nur von befähigten Personen durchgeführt werden! • Getrennt oder abgewerkte Anschlagmittel dürfen nicht verwendet werden. Das Anschlagmittel darf nicht verwendet werden (abgewerkte bei: <ul style="list-style-type: none"> - Quer- oder Längsschnitten der Umarmung (Rundschlingenschnit) und ihrer Verführung - einer Verformungsbehinderung des integrierten Rundschlingengelenkes - Quer- oder Längsschnitten in Hebelbandgewebe Hebelbandkanten, von mehr als 1/3 des Hebelbandquerschnittes - Schließen an der Verführung, z.B. durch Überdringung, Schneiden oder Hitze - Unversehrtheit oder hebelnden Einsatz • Veränderung der Temperaturbereich: -40°C bis +100°C (PES) und PA) bzw. bis +180°C (PP). • Einsatz in Chemikalien kann das Anschlagmittel verändertes Umhüllungs-Hinweisinformationen enthalten. Besondere nur mit Wasser. • Bei schweren Kontakten dürfen Anschlagmittel nicht ohne Fachwissen (z.B. von PA) Mindestdicke 3 mm) eingesetzt werden. Achtung! Hebelkanten. Schutzmaßnahmen z.B. PVC-Schalldicke über nur als Arbeitschutz und schützen nicht vor scharfen Kanten. <p>Darüber hinaus erfordern beschädigte Beschädigte wie z.B. Verformungen, Anrisse oder Brüche von Abgängen. Um Anschlagmittel zu verwenden, dürfen diese bei einem Hebevorgang nicht mehrfach übereinander geschichtet werden.</p> <p>Anschlagmittel dürfen nicht geschnürt werden.</p> <p>Überprüfen Sie auch eine befähigte Person mind. 1x jährlich.</p> <p>Unangenehme Längere von Anschlagmitteln stellt eine Gefahr für das Leben von Personen und Gütern dar. Insbesondere ist die Person im Gefahrenbereich der Last gefährdet. Vorsicht vor gefährlicher Last!</p> <ul style="list-style-type: none"> • Beachten Sie die vollständige Betriebsanleitung zum Produkt sowie die Vorschriften und Hinweise der DIN EN 1482-1, 1482-2, BGR 500, BGI 586 und BGI 873. 	<p>User information for textile slings such as re-usable lifting slings and round sling</p> <p>Slings for lifting and transporting loads may be used only by instructed and qualified persons.</p> <ul style="list-style-type: none"> • Never exceed the working load limit (WLL) of slings. • Select suitable slings, attachment points and attachment methods, e.g. weight, capacity, dimensions and surface of the load. • The angle of inclination may not exceed 60°. • Caution! The working load limit (WLL) reduces with increasing angles of inclination. • An incorrect selection or an overly large angle of inclination can lead to overloading of the sling and to the load falling! • Inspect slings for damage each time before use. Inspect may be carried out only by qualified persons! • Knots or worn slings may not be used. The sling may not be used in the case of equipment state of wear: <ul style="list-style-type: none"> - transverse or longitudinal cuts in the suspending (round sling) hook and its siting - a damaged/visible carrying yarn core of a round sling - transverse or longitudinal cuts in the lifting sling body/lifting sling edges of more than 1/3 of the cross-section of the lifting sling • Damages on stitching, e.g. due to braiding, cuts or heat • Ragged or missing label • Use only in the temperature range: -40°C to +100°C (PES) and PA) or to +180°C (PP). • Contact with chemicals can destroy the sling! Obtain information from the manufacturer without fail. Use only water for cleaning. • Slings may not be used on sharp edges without edge protectors (e.g. made of PU, minimum thickness 3 mm). Caution! Conventional protective sleeves, e.g. PVC hoses, serve only to protect against abrasion and do not protect against sharp edges. <p>Beyond that, slings with damages such as deformations, cracks or breakages necessitate discarding. To shorten slings, they may not be using several times over one another during a lifting process. Slings must carry with their full width. Coupled transverse rigid slings may not be tied up.</p> <p>Inspections are to be carried out by a qualified person at least 1x annually. The incorrect use of slings can represent a hazard to persons and goods. In particular, the person under or beside the load is at risk. Beware of remaining loads.</p> <ul style="list-style-type: none"> • Observe the detailed operating instructions for the product as well as the regulations and notes contained in BGR 500, BGI 586 and BGI 873.
Front	Rear	Info in German	Info in English



CAUTION

Not every slinging method shown here is suitable for slinging every load

direkt	ge-schnürt	umgelegt	
LA = 1	LA = 0,8	LA = 2 ($\beta \leq 7^\circ$)	LA = 1,4 ($\beta \leq 45^\circ$) LA = 1 ($\beta \leq 60^\circ$)
			<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 5px;">$(\beta \leq 45^\circ)$ </div> <div>$(\beta \leq 60^\circ)$ </div> </div>
			<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 5px;">$(\beta \leq 45^\circ)$ </div> <div>$(\beta \leq 60^\circ)$ </div> </div>

β = Angle of inclination
(angle between perpendicular and the webbing sling)

LA = load lifting factor*
(ratio of load bearing capacity in direct slinging method (LA = 1), load bearing capacity in the choke hitch slinging method (LA = 0.8))

Meaning of terms:

When slinging with one round sling:

Direct



The endless sling forms two parallel strands. One of the loop-shaped ends is hooked onto the lifting equipment; the other loop-shaped end is fixed to the load.

Choke hitch



With its stands running parallel to each other, the round sling is passed around the load. One of the loop-shaped ends is fed through the other. The free end is hooked onto the lifting equipment. The round sling can be attached with a single wrap or double wrap choke hitch.

Double wrap

The round sling is passed around the load twice before being fed through the loop-shaped end and hooked onto the lifting equipment.

Basket hitch



The round sling is laid around the load so that the endless round sling forms two parallel strands that are passed around the load. The round sling, or rather the loop-shaped ends, are hooked onto the lifting equipment.

When slinging with two round slings:

Direct



Each of the round slings forms two parallel strands. Each of the round slings is hooked onto the lifting equipment with one of its loop-shaped ends. The other two loop-shaped ends are attached to the load. The round slings are not passed around the load.

Choke hitch



Each of the round slings is passed around the load, with its strands running parallel to each other. Each round sling is secured by feeding one of the loop-shaped ends through the other. The free ends are hooked onto the lifting equipment.

CAUTION

Transporting the load

Always follow best practice: plan the slinging, lifting and setting down procedure before starting the lifting operation.

1. Make preparations: determine the weight of the load and its center of gravity. Read the accompanying paperwork, observe the indicated attachment points and weight specifications on the load, or weigh the load with a crane weigher. Estimating the weight and center of gravity with the help of weight tables is not a suitable solution. You can only place the crane hook in the correct position if you have correctly determined the position of the center of gravity.
2. Inform the crane operator of the weight of the load.
3. Move the crane hook vertically above the load's center of gravity.
4. Slinging the load: loads can slip or fall if they are attached incorrectly. A falling load can result in severe injuries or even death.

Attach the load in such a way as to avoid damaging the load or the sling gear.

To lift the load without it twisting or toppling, fulfill the following conditions:

- a) For single-strand sling gear, the attachment point must be vertically above the load's center of gravity.
- b) For two-strand suspension, the attachment points must be positioned equidistant on either side of, and above, the load's center of gravity.
- c) For three- and four-strand suspension, the attachment points must be positioned evenly distributed on the same plane around the load's center of gravity and above the load's center of gravity.



CAUTION

**Always note angle of inclination β : the larger the angle of inclination, the smaller the load bearing capacity.
Angles of inclination exceeding 60° are not permitted!**

In the case of three- and four-strand suspension and uneven loading, the assumption must be based on the load bearing capacity of a two-strand suspension according to the greatest angle of inclination. If different angles of inclination occur in the context of two-strand suspensions, the calculation must be based on the load bearing capacity of a single strand. Uneven distribution of load must always be expected if:

- the load is inelastic (e.g. concrete or cast iron parts, short beams etc.)
- the position of the center of gravity is not known
- the load has an uneven shape
- different angles of inclination occur

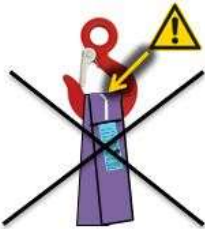
Only use suitable and appropriately dimensioned attachment points!

Never reach under strapping!

Attach the round sling so that it bears the weight across its full width.



CAUTION



Keep the round sling's seam away from the hook area and away from other lifting devices. The seam area is also easily identifiable since the label is sewed on here. Avoid damaging the label. If more than one product is used to lift the load, all the products must be made of the same material (to ensure the same elongation values, for example).



WARNING

Moving the load

When using a workshop hoist, move the load slowly and smoothly. The route must be clearly visible.

Setting down the load

The load must be set down slowly and in a controlled manner.

Wearing personal protective equipment (safety shoes and safety gloves) is mandatory (see page 7 of this operation manual).

CAUTION

Attention: Never sling using a basket hitch!

This rule does not apply to slinging of:

- Bulky loads, provided that the possibility of the sling gear sliding together and the possibility of the load shifting are excluded; long, rod-shaped loads under cross-beams, provided that skewing of the cross-beam is forcibly prevented and the load is underpinned in such a way as to prevent excessive bending. Skewing of the cross-beam does not need to be forcibly prevented if the properties and surface of the load, or the sling itself, prevent the load or parts of the load from escaping.

Round slings may be attached using a choke hitch.

The load bearing capacity of a choke hitch is only 80%!



CAUTION

If suspensions are used in such a way that not all the strands bear weight, the unused strands must be hooked up into the suspension head. This reduces the load bearing capacity to the capacity of the strands that are in use.

5. After slinging the load, exit the danger zone.
6. Reach an understanding with all the parties involved in the slinging operation. Warn parties who are not involved in the operation and are in the transport area and the unloading danger zone



WARNING

Persons at risk include slingers and other persons present in the path of the transport route, for example

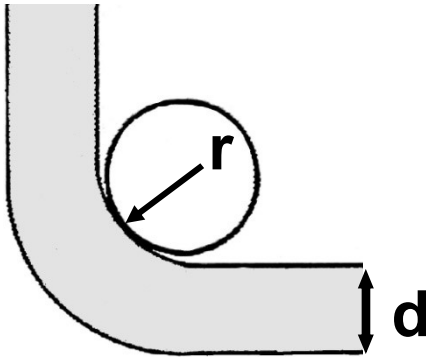
7. Give clear signals to the crane operator. Only one person should give signals.
8. When tentatively lifting the load, note whether
 - a) The load is caught or is stuck
 - b) The load is horizontal or suspended correctly
 - c) All strands are bearing the weight evenly.
9. If a load is suspended at an angle, lower it again and re-attach it.
10. Transport the load using the crane.
11. When transporting bulky parts and when there are wind loads, guide the load with a guide cable. While doing so, walk outside the danger zone, e.g. next to the mobile crane, not in front of it.
12. Follow the slinger's instructions when setting down the load.
13. Secure the load against toppling and falling apart.
14. Remove the sling gear from the load.
15. Attach the hooks of the sling gear to the suspension ring.
16. When lifting unused sling gear, make sure that it does not catch on the load.



CAUTION

Important instructions for use and warnings

- Avoid sudden or jerky strains.
- Do not attempt to pull the textile sling gear out from under the load if the load is still resting on it.
- Never drag the load over textile sling gear, never pull the textile slings across floors or rough surfaces.
- Never leave the load in the textile sling gear if this could cause damage.
- In the case of loads with sharp edges or rough surfaces, textile sling gear may only be used if the areas at risk are protected. A sharp edge refers to a situation where the edge radius r is less than the thickness d !



WARNING

Always avoid sliding on a sharp edge as this may damage the round sling and the PVC protective cover!

PVC and PU protective sleeves or other fittings (such as impregnations) only provide protection against abrasion from rough surfaces and do not protect against sharp edges.

- Round slings must not be subjected to loads when knotted or twisted. Round slings must not be extended by inserting them into each other or knotting them together.
- During cutting work, grinding work or welding work, protect the round slings against flying sparks.

CAUTION

The woven round sling cover material used for lifting and transporting is dyed. Direct contact with surfaces (e.g. materials such as plastics, painted surfaces etc.) may result in pigments being transferred from the harness material to the surface of the loaded or hoisted goods. Possible discoloration or staining can be avoided by using suitable intermediate layers, for example.

Storing and using the special round sling

Cleaning the round sling

Clean the round sling with clear water, without chemical additives. Products that have become wet during use or cleaning should be hung up to dry in the air. Never heat up products or accelerate the drying process in any other way.

Storing the round sling

Before putting the round sling into storage, examine it for damage that may have been incurred during use. Do not put damaged sling gear into storage. When not in use, store sling gear on racks in a clean, dry and well-ventilated area away from sources of heat, avoiding contact with chemicals, smoke gases, corrosive surfaces, direct sunlight or other sources of ultraviolet radiation.

Using the round sling in combination with chemicals

The materials used to manufacture textile products (PES, PA, PP) have different physical properties (e.g. grip, stability, abrasion characteristics) and different resistances to chemical influences.

Polyester is more resistant to many acids, while polyamide is more resistant to many alkalis. Polypropylene is strongly resistant both to many acids and to many alkalis.



WARNING

All materials may be destroyed or severely impaired in their load bearing capacity due to the effects of chemicals, depending on the concentration, temperature and exposure time.

When using chemicals, always contact us for our advice as the manufacturer. If slings have come into contact with chemicals, they should be cleaned immediately with clear water or by other suitable means. Always observe the relevant occupational health and safety instructions here. Even harmless acid and caustic solutions may become concentrated by evaporation to the extent that they cause damage.

Using round slings in different temperature ranges

PES round slings are suitable for use in the following temperature ranges:

Polyester / polyamide: -40° to +100°C

Polypropylene: -40° to +80°C.

These temperature ranges may vary depending on the chemical environment, so contact us for information in these cases. At temperatures below 0°C, only dry sling gear may be used.

Inspection and maintenance

Regular checks



CAUTION

In accordance with DGUV 100-500, sling gear must be inspected by a technical expert at intervals not exceeding one year. Depending on the conditions in which the sling gear is used, it may be necessary to inspect the gear at shorter intervals. This applies in particular to exceptionally frequent use, increased wear, corrosion or heat, or if an increased risk of damage is expected given operational experience. During the period of use, the user must perform visual inspections at regular intervals to detect any damage that could have an impact on long-term safe use of the sling gear. These inspections must include the fittings, connecting elements and the labeling. If there is any doubt about usability or if the necessary labeling (label or tag) is missing, and after cases of damage or unusual events that could impair the load bearing capacity, the sling gear must be put out of service and then examined by a technical expert.

Examples of faults and damage that impair long-term safe use include: cuts in the round sling cover, inlay is visible, chemical influence, damaged or deformed fittings, damaged abrasion protection sleeves or edge protection sleeves.

Repair

If your sling gear is defective, it may be possible for a specialist to rectify the problem. This helps you save on costs. Never attempt to repair sling gear yourself!



CAUTION

Criteria for discarding the round sling

Round slings may not be used (i.e. they fulfill discard criteria) in the event of:

- Damage to the sheathing or its stitching and the inlay is visible
- Damage to the bearing seams, or the sheathing or its stitching
- Deformation due to the effects of heat (friction, radiation)
- Damage due to the effects of aggressive substances
- Deformation, incipient cracks/tears, breaks or other damage to fittings
- Missing or illegible labeling

General Hazard Warnings



WARNING

When lifting loads with sling gear, there is a danger to persons under or next to the load. As a manufacturer, we must warn you, the user, that there are residual risks when handling sling gear, particularly due to an insufficiently secure connection between the sling gear and the load or due to swinging of the load during lifting, which poses a danger to the slinger. Falling loads are a danger to persons and goods.

As the user, make sure that your slingers and crane operators are trained with suitable training measures.

EC declaration of conformity

In accordance with EC Machinery Directive 2006/42/EC

We,



Dolezych GmbH & Co. KG
Hartmannstrasse 8
44147 Dortmund

hereby declare that the round sling, which was developed for slinging loads, fulfills the following relevant provisions in its standard version:

PES round sling DIN EN 1492-2

Working load limit 1,000 kg, purple, Circumference: 5,000 mm

Usable length: 2,500 mm, with 2 x 1.0 m PVC abrasion protection on the single strand

EC Machinery Directive 2006/42/EC

DIN EN ISO 12100 Safety of machinery – General principles for design,
DIN EN 1492-2 Round slings made of man-made fibers for general purpose use

Dortmund; July 6, 2018


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Dipl. Ing. Thomas Schade

(authorized representative for this document)

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