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SpanSet®



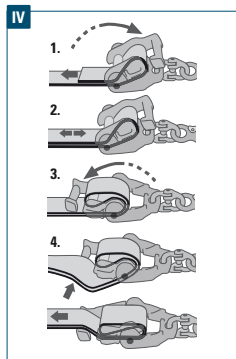
EN

**SpanSet
Certified
Safety**

EN **Operation Manual
EN 1492-1 Websling**

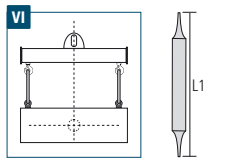
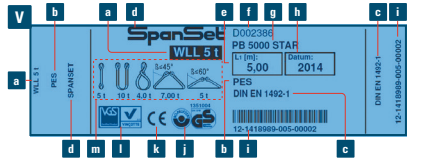


I	1	2	3	4
	M 1,0	M 0,8	M 2,0	M 1,4



II	1	2
	M 1,4	M 0,8

III	1	2	3	4	5
	0°-45°	45°-60°	0°-45°	45°-60°	0°-45°
	M 1	M 1,4	M 1	M 2,1	M 1,5



VII	A [kg]	B						C		D	E	F
								l1 min. [m]	l1 max. [m]			
500		HB 500 PA 500					G	H		1:7	PES	
1000		HB1000 PA 1000								1:7	PES	
1500		HB 1500								1:7	PES	
2000	HCS 2000	HB 2000 PA 2000	PB 2000 STAR	PC 2000	PCS 2000	PD 2000				1:7	PES	
2500		HB 2500								1:7	PES	
3000		HB 3000 PA 3000	PB 3000 STAR							1:7	PES	
4000	HCS 4000	HB 4000 PA 4000	PB 4000 STAR	PC 4000	PCS 4000	PD 4000				1:7	PES	
5000		HB 5000 PA 5000	PB 5000 STAR							1:7	PES	
6000	HCS 6000	HB 6000	PB 6000 STAR	PC 6000	PCS 6000					1:7	PES	
8000	HCS 8000	HB 8000	PB 8000 STAR	PC 8000	PCS 8000					1:7	PES	
10.000	HCS 10.000	HB 10.000	PB 10.000 STAR	PC 10.000	PCS 10.000					1:7	PES	
12.000	HCS 12.000				PCS 12.000					1:7	PES	
16.000	HCS 16.000				PCS 16.000					1:7	PES	
20.000	HCS 20.000				PCS 20.000					1:7	PES	

EN *Lifting straps with specified fittings are also produced in compliance with EN 1492-1.

VIII	A [kg]	A2 [kg]	A3 [kg]	B				C	D	E	F	
												l1 min. [m]
1000				HB 1000 D1D1 HB 1000 D1D2	PB 1000 STAR DD	PB 1000 STAR D1D1	PB 1000 STAR D1D2					1:4 PES/Metall
1400	1400	1400										1:4 PES/Metall
1400	1400	1400										1:4 PES/Metall
1500				HB 1500 D1D1 HB 1500 D1D2								1:4 PES/Metall
2000				HB 2000 D1D1 HB 2000 D1D2	PB 2000 STAR DD	PB 2000 STAR D1D1	PB 2000 STAR D1D2	PCS 2000 DD	VW-1-2000 LS			1:4 PES/Metall
2000									VW-1-2000 ASH			1:4 PES/Metall
2100	2100	2100										1:4 PES/Metall
2100	2100	2100										1:4 PES/Metall
2800	2800	2800										1:4 PES/Metall
2800	2800	2800										1:4 PES/Metall
3000				HB 3000 D1D1 HB 3000 D1D2	PB 3000 STAR DD	PB 3000 STAR D1D1	PB 3000 STAR D1D2					1:4 PES/Metall
4000				HB 4000 D1D1 HB 4000 D1D2	PB 4000 STAR DD	PB 4000 STAR D1D1	PB 4000 STAR D1D2	PCS 4000 DD				1:4 PES/Metall
4200	4200	4200										1:4 PES/Metall
4200	4.200	4.200										1:4 PES/Metall
5000				HB 5000 D1D1 HB 5000 D1D2	PB 5000 STAR DD	PB 5000 STAR D1D1	PB 5000 STAR D1D2					1:4 PES/Metall
6000				HB 6000 D1D1 HB 6000 D1D2	PB 6000 STAR DD	PB 6000 STAR D1D1	PB 6000 STAR D1D2	PCS 6000 DD				1:4 PES/Metall
8000				HB 8000 D1D1 HB 8000 D1D2	PB 8000 STAR DD	PB 8000 STAR D1D1	PB 8000 STAR D1D2	PCS 8000 DD				1:4 PES/Metall
10.000				HB 10.000 D1D1 HB 10.000 D1D2	PB 10.000 STAR DD	PB 10.000 STAR D1D1	PB 10.000 STAR D1D2	PCS 10.000 DD				1:4 PES/Metall
12.000								PCS 12.000 DD				1:4 PES/Metall
16.000								PCS 16.000 DD				1:4 PES/Metall
20.000								PCS 20.000 DD				1:4 PES/Metall


 Dear SpanSet customer, thank you for purchasing a SpanSet lifting sling or SpanSet lifting bridle. With this purchase, you have chosen a quality product that guarantees many years of service if used and cared for correctly. Please contact your SpanSet stockist or SpanSet application engineer with any queries regarding SpanSet lifting slings or bridles. Further information about our products for lifting, height safety and load control technology and our services can be found on our website at www.spanset.de. Your SpanSet group of companies

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1 Notes on These Instructions

1.1 Aim

These instructions contain information on the safe use of SpanSet lifting slings and SpanSet bridles, as listed under Type in the EU Declaration of Conformity (see EU Declaration of Conformity, p. 20).

1.2 Target groups

This manual is intended for sling technicians and qualified persons. A sling technician is a person with suitable professional training, instruction, (see Training Courses, **7**), has gained professional experience and has been recently professionally active in this field, so that he/she is in a position to recognise risks and avoid dangers that may arise from the use of lifting slings and bridles. A qualified person has suitable professional training and professional experience, and has been recently professionally active in this field, so that he/she is in a position to carry out checks and evaluations in relation to SpanSet lifting slings and bridles.

1.3 Representation Conventions



Language code: English



Compulsory reading: Follow warnings and safety information



Warning: Special care and attention



Prohibition signs



Information for handling

1.4 Availability

These instructions are to be kept for the entire service life of the SpanSet lifting slings or bridles and transferred to any new owners with the corresponding SpanSet lifting slings or bridles.

2 Product Description

SpanSet lifting slings and bridles are textile slings made from artificial fibres (polyester, polyamide and polypropylene) in accordance with DIN EN 1492-1. Additional load-bearing fitting components made from metal are used for lifting sling bridles.

2.1 Labelling

Every SpanSet lifting sling or SpanSet lifting bridle is identifiable by a sewn label  (see cover) and these instructions. Every SpanSet lifting sling or SpanSet lifting bridle can be identified with this labelling.

- a. WLL
- b. Raw material
- c. Standard use
- d. Manufacturer
- e. Length of lifting strap
- f. Item number
- g. Name
- h. Year of manufacture

- i. Traceability code
- j. Safety checked
- k. CE mark
- l. Vinçotte certification
- m. WLL for appropriate usage

3 Safety Regulations

3.1 Intended use

- SpanSet lifting slings and bridles are exclusively designed for commercial use. Private use is prohibited.
- SpanSet lifting slings and bridles are lifting accessories to be used in lifting procedures¹. SpanSet lifting slings and bridles are attached to a hoist, e.g. a crane, and a load to perform the lifting procedure.
- SpanSet lifting slings and bridles may only be used in the condition in which they were sold. Changes to SpanSet lifting slings and bridles are prohibited.

3.2 Prohibited use

- 1** Lifting and/or lowering of people or animals.
- 2** Overloading by exceeding the max. load capacity.
- 3** Tying knots.
- 4** Twisting when slinging.
- 5** Damage or abrasion.
- 6** Tilt angle larger than 60°.
- 7** Basket hitch.
- 8** Placing SpanSet lifting slings or bridles over crane hooks.
- 9** Crushing or overlaying SpanSet lifting slings or bridles.
- 10** Attachment to and pulling over sharp edges (an edge is considered sharp if the radius r is smaller or equal to the thickness t of the SpanSet lifting sling or bridle).
- 11** Place the SpanSet lifting sling or bridle on the hook tip of the load hook.
- 12** Attach load to SpanSet lifting sling or bridle.

¹ During lifting operations, loads are raised or lowered through a change in level. Height displacements when using SpanSet lifting slings and bridles may only be performed vertically.

- 13** Unintentional unhooking due to an unsuitable load hook.
- 14** Fastening the load to rounded edges.
- 15** The effect of alkaline acids on metallic attachment components.
- 16** Swinging or rotating the load.
- 17** The opening angle must not exceed 20°.
- 18** Use in potentially explosive atmospheres.

SpanSet lifting slings and bridles may not be used under the following circumstances:

- if the label is missing **V** (see cover).
- in case of incisions of more than 10% of support width.
- the fabric has been damaged by acid or lye.
- the fabric has been damaged by the effects of heat (e.g. welding beads).
- if non-exchangeable components have been deformed due to overloading or abrasion (bending, notches, ground-down areas at contact points etc.).
- if components are torn, cracked, dented, broken or corroded.
- with damage of the supporting seam.

3.3 Residual Risks



Danger! Death or serious injury due to falling loads if SpanSet lifting slings or bridles are used in an unintended manner. SpanSet lifting slings and bridles are to be used exclusively as intended (see **3.1** Intended Use).

3.4 Operator Requirements

The person operating SpanSet lifting slings or bridles is obligated to observe the following minimum requirements:

- Ensuring that the safety instructions and handling recommendations in this manual are followed.
- Identifying and implementing all occupational health and safety measures
- Determining the frequency of checks and maintenance work.
- Instructing and training the target groups (see **1.2** Target Groups).

VII VIII 4 Technical data

Tare weight:	From 0.1 kg to 4.4 kg per metre
Ambient conditions:	-40°C up to +100°C
	– Lifting slings and bridles made from polyester (PES), identified with a blue label.
A ¹ :	Permitted WLL ²
B:	Article name/type ³
C:	Working length
D:	Colour coding according to EN 1492-1
E:	Safety factor SF ⁴
F:	Raw material
G:	Length min. 1.0 bis 3.5 metres
H:	Length max. 40 metres
VW1:	1-strap bridle with variable length setting
VW2:	3-strap bridle with variable length setting
VW4:	4-strap bridle with variable length setting

4.1 Before First Use

- Check whether your SpanSet lifting sling or bridle matches the order.
- Check that the delivery is complete. Scope of supply: SpanSet lifting sling or bridle; these instructions.
- Visually inspect for damage.

4.2 Before each use

- Carry out a visual examination for damages: Damaged SpanSet lifting slings and bridles can be repaired as required (see **5. Maintenance**). Irreparable SpanSet lifting slings and bridles should not be used and must be disposed of immediately.
- Visual examination for soiling or the effects of acids or alkaline solutions or other chemical agents or substances: Clean SpanSet

1 A1 1-strap bridle, A2 2-strap bridle, A3 4-strap bridle

2 Working Load Limit = max. load capacity permitted

3 Double-layer lifting sling HB & PB with metal holder, four-layer lifting sling PCS with metal holder

4 Safety factor SF = relationship of permitted load capacity to minimum breaking force

lifting slings or bridles that have been soiled or exposed to chemical agents or substances.

- Check for moisture or wetness: Damp or wet SpanSet lifting slings or bridles must be dried in a ventilated room before use (see **5.1** Cleaning).
- Any existing metallic components must be checked for compliance with state regulations at regular intervals and using suitable tools.

4.3 Use

4.3.1 Choosing Suitable SpanSet Lifting Slings or Bridles

The selection is based on the following criteria:


- Weight of the load. Determine the weight by weighing or calculation.
- Centre of gravity for the load. Take the centre of gravity from the construction documents or calculate it.
- Length and tilt angle. Determine this by positioning the crane hook vertically above the load.
- Use a traverse if SpanSet lifting slings or bridles are to be used in pairs. This distributes the load evenly over the legs **VI** (see cover).
- Decide on a slinging method **I II III VI** (see cover):
- The slinging method influences nominal load capacity. Change in load capacity is represented by mode factor (M). The nominal load capacity for the slinging method “straight pull” is given. The load-bearing factors (M) for the remaining slinging types can be found in these instructions **I II III** (see cover), among other things.
- Consider the geometry and surface condition of the load.

I Common slinging methods for a SpanSet lifting sling (does not apply to bridles):

1. directly,
2. straight tied,
3. simply placed without a tilt angle.

II Common slinging methods for use of SpanSet lifting slings in pairs (does not apply to bridles):

1. simply placed with a tilt angle.

 **Danger!** Death or serious injury due to falling loads when several different SpanSet lifting slings or bridles are used. Use of identical SpanSet lifting slings or bridles,

 **Danger!** Death or serious injury may be caused by loads falling from a tilted position. Use SpanSet lifting slings or bridles with the same expansion.

4.3.2 Determination of Nominal Load-Bearing Capacity

The nominal load bearing capacity is affected by the method of attachment **I II III VI**

- The nominal load capacity WLL must be greater than or equal to the mass of the load.
- The actual effective load capacity is influenced by the slinging method and the tilt angle at which the lifting procedure is to be carried out.
- Both the crane hook and the load must have sufficiently wide support for the lifting sling or bridle.

4.3.3 Attaching the Load

- Hot, fluid loads must not be fastened.
- Fasten the SpanSet lifting slings or bridles to the load so that it cannot slip or slide during the lifting process.
- Use a suitable edge guard (e.g. NoCut sleeve or NoCut pad) or cover the surface of loads with sharp edges or rough surfaces.
- The part of the load that is to be fastened to the SpanSet lifting sling or bridle must be able to absorb the applied force.
- When using VarioWeb (length-adjustable lifting bridle), the set length must be checked before attaching an asymmetric load **IV** (see cover).

5 Maintenance

The term maintenance encompasses cleaning, repair and disposal.

5.1 Cleaning

Clean soiled SpanSet lifting slings or bridles. The following cleaning requirements must be met:

- Cleaning in industrial washing machines possible (Warning: no metal parts),
- use a commercially available washing agent with a pH of < 10 (Check the pH),
- temperature setting up to 30 °C max,
- do not spin-dry the product,
- leave it to air-dry.

5.2 Repairs

Repairs may only be carried out by the manufacturer or a person commissioned by the manufacturer. Lifting slings are repairable under the following circumstances:

- The label is damaged and the manufacturer is known,
- An exchangeable component is damaged.

5.3 Disposal

Disposal is the legal, appropriate and correct recycling or dismantling of SpanSet lifting slings or bridles at the end of their life cycles.

Disposal of the SpanSet lifting slings or bridles must be performed in accordance with applicable national legal provisions in your country.

SpanSet lifting sling:	PES; PA; PP
or bridle component:	Metal

6 Storage

SpanSet lifting slings or bridles must not be damaged during storage.

Conditions for storing:

- Cleaned SpanSet lifting slings or bridles,
- storage in a dry, clean and well-ventilated room,
- keep out of direct sunlight.
- keep away from chemical effects.

7 Training Courses



Utilise SpanSet training sessions and tuition to train your staff. We regularly hold seminars in the fields of lifting, loading and fall protection technology at our safety training centre. We are also happy to offer training on your premises. Enquire now or visit our seminar website at www.spanset-seminare.de

CE declaration of conformity (original)

in accordance with Appendix II Part 1. A of the machinery directive 2006/42/EG
This declaration only refers to SpanSet lifting slings and bridles in the condition
in which they were sold; parts subsequently sold by the end user
and/or subsequently interfered with remain unconsidered.

Manufacturer:	SpanSet GmbH & Co. KG, Jülicher Straße 49–51, 52531 Übach-Palenberg
Name:	SpanSet lifting sling, SpanSet bridle
Description:	SpanSet lifting slings and bridles are lifting accessories to be used in lifting procedures.
Type:	Lifting straps: Liffix 2-layer; PowerStar 2-layer; PowerStar 4-layer; belt sling 1-layer; belt sling 2-layer; PowerStar heavy-duty belt 4-layer. Bridles: HBG ¹ 1-strap; HBG ¹ 2-strap; HBG ¹ 3-strap; HBG ¹ 4-strap; VarioWeb 1-strap; VarioWeb 2-strap; VarioWeb 3-strap; VarioWeb 4-strap. ¹ HBG - lifting bridle with LS attachment

Serial no.: Serial numbers are located on the label under the relevant type description

Year of construction: From 01/09/2017

SpanSet round lifting slings and bridles comply with all relevant provisions from the machinery directive.

National standards EN 1492-1 Textile lifting gear - Safety - Flat-woven lifting straps made of and technical specifications used: synthetic fibres for general use (2009)

EN 1677-1 Individual parts for slings – Safety – Part 1:
Forged single parts, grade 8 (2009)

EN 1677-2 Individual parts for slings – Safety – Part 2:

Forged steel lifting hook with latch, quality category 8 (2008)

EN 1677-3 Individual parts for slings – Safety – Part 3:

Forged steel self-locking hook, quality category 8 (2008)

EN 1677-4 Individual parts for slings – Safety – Part 4:

Individual links, quality category 8 (2009)

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01.03.2018

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