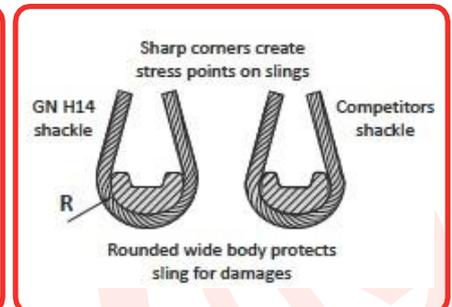


1. In selecting an EXTREEMA® sling, its maximum workload based on the method of use and the load to be hoisted should be taken into account.
2. The selected EXTREEMA® sling and type of cover must be sufficiently strong and long for the load to be hoisted.
3. If EXTREEMA® slings are used in combination with tackle and/or lifting gear, it is necessary to ensure that these are compatible. (Preferably wide body shackles).



4. Acid and alkaline solutions may become so concentrated as a result of evaporation that they can damage the round sling. Discontinue immediately the use of contaminated slings. HMPE/UHMWPE fibers are very resistant against chemicals, water/moisture and micro-organisms. Polyester round slings are resistant to mineral acids but are corroded by alkalis. Contact the sling manufacturer or fiber supplier in case the effect of the chemical on the round sling is not clear.
5. Contact with chemicals can cause local weakening and soften the cover material. Visible signs of this problem include flaking surface fibers (powder in extreme situations), which can be pulled or rubbed off. Discontinue use of such EXTREEMA® slings immediately.
6. EXTREEMA® slings are only to be used between -50 °C and +70 °C. For temperatures lower than -50 °C contact the sling manufacturer or fiber supplier.
7. Only use EXTREEMA® slings that have a legible label.
8. Slings with HMPE (Dyneema®) should be taken out of service for inspection or repair and possible test load by the manufacturer every 6 months.
9. Protect the label from damage caused by the hook, load or strapping if the sling is looped.
10. The EXTREEMA® slings may not be overloaded and should only be used by the instructions in the white user label.
11. EXTREEMA® slings must never be knotted or twisted or constricted (e.g. by tape, tie-wraps, a.o.).
12. Protect the EXTREEMA® slings against cutting and friction by applying extra protection. Contact the sling manufacturer for advises for the specific lift job at hand.
13. The EXTREEMA® sling must be fastened in such a way that the load cannot fall out during lifting. Make sure that the lifting point is above the centre of gravity of the load so that the load is balanced. Otherwise, the load to be hoisted could slip out of the sling. Slipping out or tilting of the load must be prevented.
14. If lifting is to take place using the U-sling method, it is necessary to ensure that the load is properly secure because, unlike lifting with a loop, this method does not automatically fasten the load. If the EXTREEMA® slings are to be used in pairs, use of a lifting beam is recommended. If lifting is to take place using one or more EXTREEMA® slings, the apical angles indicated in table 1 must be observed. These values are based on practical experience and calculations of forces occurring in the case of asymmetrical lifting.
15. If several EXTREEMA® slings are used at once, none of them must be overloaded, and the load must be stable and balanced.



16. Avoid shocks or impact to the load, adapt your lifting speed.
17. Never push the load to be hoisted into the EXTREEMA® sling, and make sure that the EXTREEMA® sling is not dragged along the ground or over rough surfaces.
18. Never let the load rest on the EXTREEMA® sling if this could damage the sling.
19. Ensure that the EXTREEMA® sling does not catch, and never use force to pull the sling from under the load.
20. When not in use, EXTREEMA® slings should be kept at room temperature in a dry, well-ventilated room, away from heat sources.
21. Make sure that the EXTREEMA® sling does not come into contact with hot surfaces and gasses such as lamps and welding flames.
22. Before use, an EXTREEMA® sling must be checked along its entire length for damage to the stitching, tackle and the sling itself. Withdraw damaged slings from use.
23. An EXTREEMA® sling, of which the core itself is visible, must be withdrawn from use. Also in case the cover shows clear signs of wear the sling must be withdrawn from use. An expert must then assess whether the sling in question can be safely reused after repair.
24. EXTREEMA® slings may only be repaired by the manufacturer. Repairs may only be carried out on slings that are still identifiable by their label.
25. If a EXTREEMA® sling has come into contact with acids and/or alkalis, it must be cleaned with water or a suitable agent, such as trichloroethylene or tetrachloroethylene. Note that, when cleaning the EXTREEMA® sling with these agents, the appropriate safety precautions must be taken. A wash declaration is enclosed.
26. In certain cases, it may be necessary to consult the manufacturer about how to clean the EXTREEMA® slings.
27. EXTREEMA® slings that get wet through use or as a result of cleaning must be allowed to dry naturally, not near a heat source. Particular cleaning cases, type of agents and procedures, may cause the need to require manufacturer's advice.
28. If the EXTREEMA® sling is used as a loop (choke hitch), the angle may not be greater than 120°. Never try to tighten the loop with force. The correct way to hoist a double-slung EXTREEMA® sling is indicated in the white user label.
29. More than one person should handle with the appropriate apparatus or EXTREEMA® slings heavier than 18kg that are regularly transported.
30. Only use EXTREEMA® slings for lifting, not for pulling, dragging, etc.
31. Under no circumstance go beneath the load.
32. When lifting with the EXTREEMA® sling, take care that the load is evenly distributed over the sling's full width.
33. The EXTREEMA® sling should be positioned in such a way that, during lifting, the stitching of the overlap is not in the hook or around the load.
34. Always consult our Checklist on Extreema® Heavy Lift Projects. Contact our technical sales dept. for more details.
35. Because of elongation it is impossible to get a matching pair of slings to an exact length.
36. D:d ratio and bending radius between sling and shackle (anchoring point, hook, etc.) should be taken into account. Extreema® Slings can be used in a D:d ratio of 1:1 unlike fibre/wire ropes.
37. At low temperatures ice formation will take place if moisture is present. This may act as a cutting agent and an abrasive causing internal damage to the sling. Further, ice will lessen the flexibility of the sling, in extreme cases rendering it unserviceable for use.

**Important notice:**

When using Extreema® round slings it may occur that the core material in the sling hardens on the anchoring points while lifting. This is a normal reaction for HMPE fibers. It can easily be undone by beating on the hard spot with your fist. Please do not kick, or use a hard object such as a hammer, wooden stick or any metal piece, as this might damage the round sling sleeve.



**Table 1: Working Load Limits and colour codes**

WLL of roundsling in straight lift	Colour of roundsling cover	Working load limits in tonnes								
		Straight lift	Choked lift	Basket hitch		Two leg sling		Three and four leg slings		
				Parallel	β = 0 to 45°	β = 45° to 60°	β = 0 to 45°	β = 45° to 60°	β = 0 to 45°	β = 45° to 60°
		M = 1	M = 0,8	M = 2	M = 1,4	M = 1	M = 1,4	M = 1	M = 2,1	M = 1,5
1,0	Violet	1,0	0,8	2,0	1,4	1,0	1,4	1,0	2,1	1,5
2,0	Green	2,0	1,6	4,0	2,8	2,0	2,8	2,0	4,2	3,0
3,0	Yellow	3,0	2,4	6,0	4,2	3,0	4,2	3,0	6,3	4,5
4,0	Grey	4,0	3,2	8,0	5,6	4,0	5,6	4,0	8,4	6,0
5,0	Red	5,0	4,0	10,0	7,0	5,0	7,0	5,0	10,5	7,5
6,0	Brown	6,0	4,8	12,0	8,4	6,0	8,4	6,0	12,6	9,0
8,0	Blue	8,0	6,4	16,0	11,2	8,0	11,2	8,0	16,8	12,0
10,0	Orange	10,0	8,0	20,0	14,0	10,0	14,0	10,0	21	15,0
Over 10,0	Orange									

M = Mode factor for symmetrical loading. Handling tolerance for slings or parts of slings indicated as vertical = 6°



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When using EXTREEMA® round slings it may occur that the core material in the sling hardens on the anchoring points while lifting. This is a normal reaction for HMPE fibers. It can easily be undone by beating on the hard spot with your fist. Please do not kick, or use a hard object such as a hammer, wooden stick or any metal piece, as this might damage the round sling sleeve.

**Disclaimer**

This manual is intended to provide general information only on the characteristics and use of EXTREEMA® slings with HMPE products. Purchase of EXTREEMA® slings should be made only after a thorough assessment of particular needs and suitability of a particular EXTREEMA® sling with HMPE with the assistance of a skilled LIFT-TEX® Industrie b.v. professional. Information and specifications in this user manual are indicative and subjective to change, no rights can be derived.

EXTREEMA® slings are sold only under contracts containing specific product specifications and our general delivery conditions. Any pictures shown in this brochure are indicative only and not suitable for copying. Setups should be clearly assessed by a skilled LIFT-TEX® Industrie b.v. professional.

EXTREEMA® is a registered trademark of LIFT-TEX® Industrie b.v. The Netherlands.

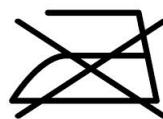
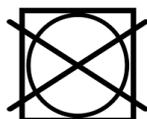
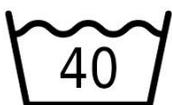
Dyneema® is a registered trademark of Royal DSM N.V.



**WASH DECLARATION**

For synthetic Lift-TEX® Roundslings and Webbing Slings

- It is best not to use a washing machine on a regular basis but every now and then (every 4-6 months) it should be no problem.
- Water temperature max 40 °C / degrees with a mild soapy detergent.
- After cleaning/washing allow the sling to dry naturally in a warm environment (room temperature) away from direct sunlight before use.
- Regular hand cleaning to wipe away surface dirt and grease is preferred, and whenever required by rubbing a mild soapy detergent with a damp sponge in the affected area.
- Again after cleaning/washing, allow the sling to dry naturally in a warm environment (room temperature) away from direct sunlight before use.
- Solutions of acids or alkalis which are harmless can become sufficiently concentrated by evaporation to cause damage. Contaminated slings should be taken out of service at once, soaked in cold water, dried naturally and referred to a competent person for examination.
- If exposure to chemicals is likely, the manufacturer or supplier should be consulted.
- The man-made fibers from which the roundsling is produced are susceptible to degradation if exposed to ultraviolet radiation. Roundslings should not be stored in direct sunlight or sources of ultraviolet radiation.
- When not in use, slings should be stored in clean, dry and well ventilated conditions, at room temperature and on a rack, away from any heat sources, contact with chemicals, fumes, corrosible surfaces, direct sunlight or other sources of ultraviolet radiation.
- Where lifting slings have come into contact with acids and/or alkalis, dilution with water or neutralization with suitable media is recommended prior to storage.
- Depending on the material of the lifting sling and on the chemicals, it may be necessary in some cases to request from the supplier additional recommendations on the cleaning procedure to be followed after the sling has been used in the presence of chemicals.
- Slings which have become wet during the the washing process, or as the result of cleaning, should be hung up and allowed to dry naturally before further use.



**EXTREEMA® Checklist**

- ✓ Will it be an engineered lift (case study)?
- ✓ What is the frequency of the lift to be carried out. (repetitive or incidental lift)
- ✓ Will the EXTREEMA® slings be used on- or offshore?
- ✓ Does this project concern a static or a dynamic lift?
- ✓ What is the object to be lifted? (dimensions, size, shape, photos, etc.)
- ✓ Are there any (welded) anchoring or lifting points fixed on the object?
- ✓ Are shackles being used, and if so, which type/model?
- ✓ What type of crane(hooks) is or are being used?
- ✓ Is the cranehook new, and if not, checked for any damage?
- ✓ Tolerances on length of the EXTREEMA® slings will be 3% is this acceptable?
- ✓ Does the customer require Proofload test under supervision of independent test bodies like DNV or Lloyd's?
- ✓ Which type of certificates are required by the customer or organisation using the slings?
- ✓ Which type of protections\* are being used to protect the sling from early damage?
- ✓ What will be the estimated required delivery time?
- ✓ EXTREEMA® slings will ALWAYS be supplied with a user manual which must be read carefully before each use of the slings!

**IMPORTANT NOTICE : According EN 1492-2:2000+A1:2008:**

**C.3.6 Slings should be protected from edges, friction and abrasion, whether from the load or the lifting appliance. Where protection against damage from edges and/or abrasion is supplied as part of the sling, this should be correctly positioned. It may be necessary to supplement this with additional protection.**

**\*Please contact us for more information about our EXTREEMA® protection products.**

