

DISCLAIMER

Your Ropeblock product is by default considered a tool or essential part of the intended application and therefore defined by the application or system designer or application owner. In accordance with Machine Directive 2006/42/EC, this Ropeblock product is therefore supplied as standard without EC declaration. Where applicable, the product will become part of a CE-marked assembly. The product must then not be put into service until the full assembly has been declared to conform to the provisions of 2006/42/EC. Where the product is considered a lifting accessory, requiring an individual conformity declaration (IIA) or declaration of incorporation (IIB), it shall be mentioned in the contract.

The party installing Ropeblock products shall be competent and qualified in the design, construction or maintenance of the relevant application and have the knowledge of the relevant regulations and standards concerning the application/equipment required for proper installation, or be declared competent by their employer.

The party using Ropeblock products shall be competent and qualified in the operation of the relevant application and have the knowledge of the relevant regulations and standards concerning the application/equipment required for proper operation, or be declared competent by their employer.

Furthermore the party installing and/or using Ropeblock products shall read and fully understand the Warning & Safety information as presented in the back of this catalog. Full responsibility for the safe use and application of Ropeblock products rests with the purchaser and/or user.

Ropeblock is not responsible for any misuse of the products or misinterpretation of this document.

IN CASE OF ANY DOUBT OR PROBLEMS, ALWAYS CONTACT YOUR SALES REPRESENTATIVE OR ROPEBLOCK B.V.



YOU CAN FIND THE WARNING & SAFETY INFORMATION On Pages 136 - 149





WARNING

AND SAFETY INFORMATION

CONTENTS

04	INTRODUCTION	14	PRODUCTS	

08 **126** MARKETS ROPEBLOCK R&D



ROPEBLOCK EQUALS SMART ENGINEERING

Established in 1994, Ropeblock is a globally renowned developer and manufacturer of lifting and rigging hardware. We supply safe and high quality components to crane OEMs and end users worldwide. Our products are used in critical equipment such as mobile cranes, port cranes, ship cranes, offshore cranes and platforms, dredging equipment, pendant structures, mooring systems, and heavy industry applications. By providing a reliable interface between the wire rope and its load and efficiently guiding the rope through the crane system, Ropeblock products maximize operational safety as well as wire rope durability.

ENGINEERED FOR EFFICIENCY

Ropeblock products stand out by being engineered for efficiency, which is a matter of matching superior product design and (cost) efficient production. Mind you, our Smart Engineering philosophy goes way beyond actual engineering. It involves the entire process, including quality and safety, certification, and research & development. The fruits of Smart Engineering are often introduced in custom designed solutions. In turn, our standard components benefit as well, as any major innovations and improvements achieved are subsequently incorporated into the entire portfolio of Ropeblock products.

WE KNOW YOUR MARKET

Besides Smart Engineered products and solutions, Ropeblock's excellent reputation is due to thorough knowledge of the markets in which we operate. From construction to cargo handling, offshore to industry, our dedicated specialists know all about industry specific issues, requirements, trends and developments. This very knowledge helps them in putting customers and customer needs first - which is another Ropeblock trademark. Besides direct sales to customers in our various target markets, Ropeblock products are available from numerous rigging and sling shops worldwide. These vendors are proud to carry Ropeblock catalog products, most of which are instantly available from large stocks.

IN THIS CATALOG WE WILL TELL YOU ABOUT ROPEBLOCK, AND INTRODUCE YOU TO OUR PORTFOLIO. IF YOU HAVE ANY QUESTIONS, OUR STAFF WILL BE GLAD TO BE OF SERVICE



WHY CHOOSE ROPEBLOCK? MARKET LEADING DESIGNS

Ropeblock's design philosophy is primarily aimed at supplying low maintenance products that protect the wire rope and extend its lifetime. The implementation of this philosophy is restricted by the rules and regulations of different third parties and governmental institutions.

Our extensive knowledge in this domain has allowed us to come up with truly market leading designs appreciated by OEMs and end-users alike.

THE BENEFITS OF STANDARDIZATION

Wherever possible Ropeblock seeks to standardize its products. As a result, many of them can be used across applications. As an added benefit, lead times are relatively short.

CONSISTENT QUALITY

Consistent product quality is assured by Ropeblock's ISO 9001 QMS and a dedicated team of QA/QC professionals. Our efforts in this regard include elaborate in-house testing, especially where blocks and overhaul balls are concerned. Moreover, our manufacturing process has been approved by DNV, RMRS, BV, RINA and API Q1, with whom we are now in a Manufacturing Survey Arrangement.

FULL COMPLIANCE

Ropeblock products are state of the art designed following European machine directive 2006/42/EC and using relevant guidelines in EN, ISO, DIN or FEM standards, ASME B30.5, B30.10, B30.26 safety standards and e.g. federal specifications RR-S550D, RR-C-271. Ropeblock products adhere to standards and design rules (such as API 2C, API 8C, ABS, DNV, LRS, BV, GL, RINA, RS, etc.) as mentioned in the contract and/or drawings. With Ropeblock Design For Assembly (DFA) engineering principles they are the perfect choice for local regulations, stipulating hook and hook-nut should be dismantled, inspected and re-tested (proof loaded) every 4 or 5 years.

CERTIFICATES AND DOCUMENTATION

Ropeblock products can be supplied with any certification/ documentation you desire or require, such as declarations of compliance, manufacturer test certificates, material certificates, inspection reports and third party documents.

THE FINISHING TOUCH

An important requirement in the total scope of manufacturing is the finishing, or corrosion protection, of the products. Ropeblock has developed comprehensive finishing methods in accordance with ISO standards, which allows for flexible adaptation to segment specific requirements.











and many more...

The Ropeblock Quality Management System is certified in accordance with ISO 9001: 2015: Our manufacturing processes have been approved by DNV, RMRS, BV, RINA and API Q1, resulting in a Manufacturing Survey Arrangement with these third parties. This, together with a dedicated team of QA/QC professionals, ensures a consistent quality of products and services.

QUALITY & CERTIFICATES

STANDARDS AND DESIGN RULES

Ropeblock products are state of the art designed following European machine directive 2006/42/EC and using relevant guidelines in EN, ISO, DIN or FEM standards, ASME B30.5, B30.10, B30.26 safety standards and e.g. federal specifications RR-S550D, RR-C-271. Ropeblock products adhere to standards and design rules (such as API 2C, API 8C, ABS, DNV, LRS, BV, RINA, RS, etc.) as mentioned in the contract and/or drawings.

With Ropeblock Design For Assembly (DFA) engineering principles they are the perfect choice for local regulations, stipulating hook and hook-nut should be dismantled, inspected and re-tested (proof loaded) every 4 or 5 years.

CERTIFICATES AND DOCUMENTS

Upon request, all blocks and swivels can be supplied with any of the following documents:

- Declaration of compliance according to EN 10204 2.1
- Test report according to EN 10204 2.2 (batch proof load test according to ILO 152)
- Inspection certificate finished product according to EN 10204 3.1 (individual product proof load test according to ILO 152)
- Inspection certificate finished product according to EN 10204 3.2, confirmed by a third party (Individual product proof load test according to ILO 152)
- Material certificate according to EN 10204 3.1 for main load bearing part (hook certificate)
- Material certificates according to EN 10204 3.1 for all load bearing parts
- Material certificates confirmed by a third party according to EN 10304 3.2, for main loading part or all load bearing parts
- EC Declaration according to Machine Directive 2006/42/EG where applicable
- NDE inspection reports (e.g. visual, dimensional, magnetic and ultrasonic)
- Witness or survey certificate issued by official classification or inspection agencies, all IACS agencies accepted (e.g. ABS. DNV, LRS)
- Third party design or type approval
- Full manufacturing record book including material certificates, test certificates, welding log, paint log, etcetera.

NOTE THAT THE ABOVE IS AN ABSTRACT OF WHAT IS COMMONLY REQUESTED, BUT NOT CONSIDERED STANDARD. PLEASE ASK YOUR SALES CONTACT FOR DETAILS.



ROPEBLOCK ROPEBLOCK

At Ropeblock, research & development is not an isolated department. Rather, it's an ongoing process that is integral to our Smart Engineering philosophy. Our constant aim is to fulfil customer needs by providing efficient, safe, durable, low-maintenance products and solutions, well thought-out from manufacturing through application. To achieve this, our engineers are always looking for ways to optimize current designs or come up with new ones that do an even better job. Our hands-on approach of R&D has led to success for both our customers and end users, while also yielding patented market leading designs. On these pages we present two examples of highly appreciated product optimizations that couldn't have been achieved without Ropeblock's signature R&D approach.

ROPEBLOCK ENGINEERED

In any type of crane system, a wire rope being bent over a sheave will lead to rope fatigue. Recent studies show that this particular type of fatigue is even more severe when the wire rope is in a twisted state. In such cases, the most commonly used rotation resistant ropes may see their longevity reduced by up to 70 percent. At Ropeblock, we took it upon ourselves to address this issue by developing a unique type of sheave.

FLEET ANGLES

One of the major causes of wire rope twist in crane applications is friction between the wire rope and the sheave.

This friction, in turn, is primarily caused by the angle of attack of the wire rope on the sheave







CAST SHEAVES FOR DURABILITY

is not possible when the wire rope is fixed directly to the crane. The additional twist resulting from fleet angles then generates extra torsion. When the accumulated twist in the crane system is released between the tip of the crane and the lower block, block rotation may eventually ensue.

CHOOSING THE OPTIMUM MATERIAL

The degree of friction in crane systems largely depends on the type of sheave used. Plastic sheaves, especially, are known to cause above-average friction, hence, more twist. Consequently, after meticulous R&D, Ropeblock introduced a unique type of cast sheave. It ensures optimum interaction with the wire rope, resulting in significant friction reduction and record amounts of Cycle Bends Over Sheave (CBOS) in any application.

GRAPHITE LUBRICATION

The secret of the Ropeblock cast sheave is dry graphite lubrication, which works in a way similar to bronze bearings with graphite nodes. By making the wire rope slide rather than twisting it, Ropeblock sheaves substantially lower the friction coefficient. Once the rope and groove are properly run in, wear is reduced to practically zero. What's more, improved sheave ductility provides better resistance against impact or unintended blows against objects, while the material grain makes sheaves more crack-resistant. As an added benefit when operating in extreme circumstances, Ropeblock graphite sheaves have a better than average low temperature performance, allowing service down to even -40°C/-40°F.



LONGER LASTING

Research in a lab environment proved that by minimizing wire rope twist Ropeblock sheaves make wire rope last up to 40 percent longer when compared to the same size and geometry plastic sheaves. When compared to regular steel sheaves of the same size and geometry, Ropeblock sheaves perform better by 25 percent. All in all, Ropeblock sheaves make crane systems safer, improve uptime and optimize cost effectiveness. They come in hundreds of different bearing and D/d sizes, ranging from wire rope 10 mm to 76 mm and beyond, and are accepted by all major classification societies.

ROPEBLOCK OPTIMIZED RAMSHORN HOOKS ENGINEERED FOR EFFICIENCY

RSN 23V

Crane blocks and lifting hooks are often used in applications that include soft eye and steel wire rope slings and grommets.

The capacity of these slings and grommets largely depends on the bending radius on the hook saddle. The sharper the edge, the lower the capacity. Oversized slings/grommets need to be selected to meet the required load and wear will arise on the bending spots.

INCREASED BENDING RADIUS

To remedy this, Ropeblock developed a new generation of ramshorn hooks featuring a significantly larger bending radius in the sling zone. The increased bending radius improves the working efficiency of slings and grommets. The resulting wear reduction translates into improved endurance, while capacity is less compromised.

WIRE ROPE BENDING RADIUS



STANDARD SHAPE

ROPEBLOCK OPTIMIZED SHAPE

EN AND DIN COMPLIANT

Whereas the new geometry makes the hook body exceed EN and DIN standards (including EN13001-3-5), the shape still allows the hooks to work with traditional hardware. All in all this is the safe choice for any application. The new improved ramshorn hooks are available in the medium and larger capacity range (sizes 16 and up) where grommets and soft-eye slings are used along with traditional hardware.







CRANE BLOCKS & OVERHAUL BALLS

The Ropeblock portfolio includes a wide range of crane blocks with proven quality assured by a track record spanning 25 years.

MISCELLANEOUS BLOCKS

Ropeblock offers a wide choice of standard blocks. Some were developed for general purposes, others for specific rigging equipment. Possible applications include routing or guiding wire rope, upending and wall tilt-up, and cargo handling on merchant vessels.

SHEAVES

The Ropeblock range of highly efficient, Smart Engineered standard sheaves is extensive. It includes API sheaves, cast sheaves, plastic sheaves, welded sheaves, sheaves from solid materials and forged sheaves.

PAGE 15

PAGE 42

PAGE 64



SOCKETS

Ropeblock provides sockets for both general purpose and high performance ropes. These sockets are used in extreme environments. Besides the standard sockets shown in this catalog we can Smart Engineer any required special socket solution.

TURNBUCKLES

Turnbuckles may be supplied in endless variations, in workload, in size, in take up, in locking, in connections, in type of thread.

COMPONENTS

The Ropeblock portfolio includes a wide choice of proven quality components for various lifting & rigging purposes, such as split overhaul balls, triangle plates and pad eyes.

PAGE 82

PAGE 108

PAGE 116



OFFSHORE SPECIFIC CRANE BLOCKS

At Ropeblock we employ our Smart Engineering philosophy to design and calculate components dedicated to the offshore industry, such as special crane blocks, sheaves and swivels. Available with and without active heave compensation, these components can be used in, e.g., lattice boom cranes, knuckle boom cranes and heavy lift cranes.

Standard features include:

 Design factors in accordance with customer and third party specifications.

- Certification or classification in accordance with any IACS party or API is possible.
- 100% traceability of all load bearing parts (3.1 or 3.2).
- Fit for extremely low temperature applications.
- Can be made suitable for subsea depths up to 4000 metres.
- C5-MM or higher quality coating.
- Forged high tensile steel DIN/EN hooks.
- Lockable heavy-duty safety latch.
- Cast sheaves featuring 'graphite lubrication'.
- High-quality, low-friction thrust bearing.
- ATEX proof on request.

PLEASE CONTACT US FOR MORE DETAILS

RECOMMENDED FINISH

Segment / application	ISO 12944 classification	Classification description	Expected protection duration	DFT (µm)
Construction	C2M	Slightly polluted atmosphere, predominately agriculture areas	5 to 15 year	120
Construction	СЗМ	Industrial and residential air pollution levels, with an average sulfurdioxide (IV) contamination level. Coastal areas with low salt content in air	2 to 5 year	120
Construction	СЗМ	Industrial and residential air pollution levels, with an average sulfurdioxide (IV) contamination level. Coastal areas with low salt content in air	5 to 15 year	160
Cargo handling	СЗМ	Industrial and residential air pollution levels, with an average sulfurdioxide (IV) contamination level. Coastal areas with low salt content in air	5 to 15 year	160
Cargo handling	C4H	Industrial areas and coastal areas with average salt content in air	more than 15 year	280
Cargo handling	C5-MM	Coastal areas and open sea with high salt content in air	5 to 15 year	280
Offshore	C4H	Industrial areas and coastal areas with average salt content in air	more than 15 year	300
Offshore	C5-MM	Coastal areas and open sea with high salt content in air	5 to 15 year	300
Offshore	C5-MH	Coastal areas and open sea with high salt content in air	more than 15 year	320
Offshore	NORSOK sys. 1*	Open sea with high salt content in air	more than 15 year	300



CARGO HANDLING- /MARITIME CRANE BLOCKS

The Ropeblock portfolio includes special blocks for cargo handling, especially on container ships, bulk carriers and general heavy and multipurpose cargo ships. Our blocks are available in different classifications. Smart Engineering enables us to always come up with the optimum solution for your application and classification.

Standard features include:

 Different design factors are possible, depending on application and classification.

- Certification or classification in accordance with any IACS party is possible.
- 100% traceability of all load bearing parts (3.1 or 3.2).
- Forged high tensile steel DIN/EN hooks.
- Cast sheaves featuring 'graphite lubrication'.
- Standard with C3M coating, higher quality finishing available.
- High-quality, low-friction thrust bearing.

PLEASE CONTACT YOUR SALES REPRESENTATIVE FOR MORE DETAILS

Segment / application	ISO 12944 classification	Classification description	Expected protection duration	DFT (µm)
Construction	C2M	Slightly polluted atmosphere, predominately agriculture areas	5 to 15 year	120
Construction	СЗМ	Industrial and residential air pollution levels, with an average sulfurdioxide (IV) contamination level. Coastal areas with low salt content in air	2 to 5 year	120
Construction	СЗМ	Industrial and residential air pollution levels, with an average sulfurdioxide (IV) contamination level. Coastal areas with low salt content in air	5 to 15 year	
Cargo handling	СЗМ	Industrial and residential air pollution levels, with an average sulfurdioxide (IV) contamination level. Coastal areas with low salt content in air	5 to 15 year	160
Cargo handling	C4H	Industrial areas and coastal areas with average salt content in air	more than 15 year	280
Cargo handling	C5-MM	Coastal areas and open sea with high salt content in air	5 to 15 year	280
Offshore	C4H	Industrial areas and coastal areas with average salt content in air	more than 15 year	300
	C5-MM	Coastal areas and open sea with high salt content in air	5 to 15 year	
	C5-MH	Coastal areas and open sea with high salt content in air	more than 15 year	
	NORSOK sys. 1*	Open sea with high salt content in air	more than 15 year	

RECOMMENDED FINISH



INDUSTRIAL SPECIFIC BLOCKS

This block type is always custom specific.

Depending on the particular application, the following features are available:

- Double-sealed maintenance-free roller bearings
- Compact design
- Protected grease fittings
- Durable reeve guards
- Forged high tensile steel DIN/EN hooks

- Cast sheaves, featuring graphite lubricated groove
- Motorized hook (optional)
- Temperature range depending on application
- C3M finish in signal yellow

PLEASE CONTACT YOUR SALES REPRESENTATIVE FOR MORE DETAILS





OVERHAUL WEIGHTS

University studies show that many factors are relevant to determine minimum overhaul weights.

These factors include:

- Boom length or jib height
- Geometrical design of block and crown block
- Type of bearing
- Sheave diameters
- Wire rope type and construction
- Number of stationary sheaves outside the tackle
- Grease
- Operational temperatures

The overhaul weight is therefore established in collaboration with the crane manufacturer. For cranes with various boom configurations the overhaul weight can be set by means of interchangeable cheek weights.

