

Oil & Gas



The oil and gas industry needs high quality products according to the highest standards of use. This industry is right now the main market for GOSAN. Our company has an extensive experience of onshore petroleum facilities and offshore installations.

Quality, reliability and durability is what differentiate our sheaves from others. The designs most commonly used for this type of applications are GOSAN Model C and Model D sheaves.

▪ Description

MODEL C: Sheaves made two convex central plates for a better and more uniform distribution of the load effort. Any size available up to 6 m. This design allows the constitution of lightweight sheaves with highload capacity.

MODEL D: Sheaves made from a central core and lateral stiffeners mounted in a radial pattern. With a stronger and more resistant design , this type of sheaves are typically used for high responsibility machines and underwater applications.



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• Technical Data

- ✓ Custom made designs according to international standards and customers exact requirements
- ✓ Dimensions from 24" up to 180"
- ✓ Long-life sheaves > 35 HRC Groove.
- ✓ Highest quality requirements as per API 8A and API 8C, and 3rd party certificates such as ABS and DNV. GOSAN certificates always provided according to internally conducted controls & tests (see ITP in pages 4&5).
- ✓ Final coating as per customer specifications.
- ✓ Every configuration of accessories available: bearings, seals, snap rings & bushings.

MODEL C

- ❖ Model C sheaves are 40% lighter in weight than forged or cast sheaves



MODEL D

- ❖ Model D sheaves ideal for marine use in underwater applications





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• Quality & Certifications

Assessed and recognized by the most exacting certification agencies GOSAN possess:

- ✓ API 8C
- ✓ ISO 9001:2008
- ✓ ISO 3834/2
- ✓ DIN 18800

In parallel to a recognized and assessed Quality Management System (by both Lloyd's Register and American Petroleum Institute), our products are constinously being assessed by ABS, DNV and Lloyd's. Thereby, we guarantee not only the quality on the final product but the preservation of the quality throughout the whole manufacturingn process too.






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Beyond the external 3rd party certifications and test we always make available to our customers the following documentation along with GOSAN products:

✓ **Inspection & Test Plan.** This can be accomplished with the following:

 GOSAN, S.A Pol. Industrial Granada, C-1 E-48530 ORTUELLA SPAIN Tl: +34 94 664 24 23 / F-ax.: +34 664 06 03 E-mail: gosan@gosan.net	INSPECTION & TEST PLAN ITP DRILLING REV 00		P.O.:REV ₀₀ 00 PROJECT NUMBER: GOSAN, S.A. O.T: Date:				
	Product description: Wire Sheave \emptyset xxxx/xxxx R.....			Reference document:			
Description	Type of Control	Reference Document	Acceptance criteria	Inspection & Certification			Cert.
				GOSAN	3 rd party	CUSTOMER	
Drawing DVR / TYPE APPROVAL	Design Verification	Drawing Calculations	Drilling Standard: DNV-OS-E101/ABS-CDS FEM 1001/API 8C	H	H		C
Rim	Rev. Certificates Mechanical tests Visual control	DIN 10204 Certificate 3.13.2 (if applicable) Drawing Tech. Inst. Material specs	Drilling Standard: DNV-OS-E101/ABS-CDS Material standard (EN 10225)	H	R		C
Hub	Rev. Certificates Mechanical tests Visual control	DIN 10204 Certificate 3.13.2 (if applicable) Drawing Tech. Inst. Material specs	Drilling Standard: DNV-OS-E101/ABS-CDS Material standard (EN 10025/ EN 10297)	H	R		C
Plate	Rev. Certificates Mechanical tests Visual control	DIN 10204 Certificate 3.13.2 (if applicable) Drawing Tech. Inst. Material specs	Drilling Standard: DNV-OS-E101/ABS-CDS Material standard (EN 10025)	H	R		C
TRACEABILITY OF THE MATERIAL	Visual/ Documentary			H	M		C
Welding Procedures Approval Record (WPQR/WPS) and traceability	Rev. procedure	GSA 09/GSA 10 SAW 20	EN ISO 15614-1/EN ISO 15609-1 DNV-OS-C401	W	H/R		P
Welders Qualification Certificates (WPQ) and traceability	Renewal every six months	GSA 09/GSA 10 SAW 20	EN 287-1 & EN 1418	W	H/R		P
Filler metal control	Rev. Certificates	Fabrication sheet Welding procedure Tech. Inst. Welding consumables storage	WPQR, WPS DNV-OS-C401/ABS RULES PART 2	W	M/R		C
Welding process/ HWHI (if applicable)	Visual Documentation	WPQR/WPS Tech. Inst. Welding/Welding repair	WPQR, WPS Tech. Inst. Welding/Welding repair DNV-OS-C401/ABS RULES PART 2	H	M/R		P
Groove Hardening (if applicable) Subsupplier	Rev. Certificates Hardness measurement MT 100 %	Tec. Inst. Hardening Drawing	Drawing	H	M/R		C
Material – Visual test (All accessible surfaces)	100 % Visual surface inspection	API 8C ASME V Subsec A art 9/ IV-01-059	API 8C ASME V Subsec B art 28	H	R		C





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Description	Type of Control	Reference Document	Acceptance criteria	Inspection & Certification			Cert.
				GOSAN	3 rd party	CUSTOMER	
Material - Magnetic particles (All accessible surfaces)	100 %Surface inspection	ASME V Subsec A, art 7 PM-01-065	API 8C (MACHINED SURFACE FLUORESCENT METHOD) ASTM E 125	H	R		C
Welding – Visual test (Full penetration welds)	Visual surface inspection	EN ISO 17637/ IV-03-004	EN ISO 5817 LEVEL B EXTENT: 100 %	H	M/R		C
Welding - Ultrasonic test (Full penetration welds)	Volumetric NDE	EN ISO 17640/ UT-12-011	EN 11666 Level 2 EXTENT: 100 % HUB-PLATE (E), 20% PLATE-RING (P) AND RING-RING (P)	H	M/R		C
Welding – Magnetic particles (Full penetration welds)	Surface inspection	EN ISO 17638/ PM-09-017	EN ISO 23278 Level 2 EXTENT: 100 % HUB-PLATE (E), 20% PLATE-RING (P) AND RING-RING (P) API 8C (MACHINED SURFACE- FLUORESCENT METHOD)	H	M/R		C
NDT Operator Qualification	Rev. Certificates		ISO 9712 – Level II	H	R		C
Dimensional control	Dimensional verification	Tech. inst.- dimensional control Tech. Inst. Production control	Drawing (tolerances) ISO 2768-m	H	R		C (DCR-2)
Balanced test (f applicable)	Rev. Certificates	Tech. Inst. Balancing	G 6,3 DIN ISO 1940-2	R	M/R		C
Load test (f applicable-SR-1)	Rev. Certificates Groove VT 100 %	API 8C	Drilling Standard: DNV-OS-E101/ABS-CDS	H	H		C
DNV-ABS final inspection	Visual Dimensional	Purchase Order Drawing Approval Design (TA/DVR)	Customer specs. Approval Design (TA/DVR)	H	H		P
Painting inspection	Thickness	Inst. Tech. Painting		H	-----		C (PIR-2)
Customer/Gosan final inspection	Visual 100% Dimensional	Purchase Order drawing Approval Design (TA/DVR)	Customer specs / DNV-OS-E101/ ABS-CDS Approval Design (TA/DVR)	H	-----	W/M	
Tagging	Visual check	Drawing/Fabrication sheet	GOSAN/DRAWING/WIRE ø API SPEC 8 C/OUTSIDE ø OF/SERIAL NUMBER	H	-----		P
Weight control				H	-----	W	P
Packing declaration		Tech. Inst. Packing, handling and storing		H	-----		C
DNV –ABS Survey Report				H	H		C
Expedition Authorization				W	-----		
MRB	Document control	Fabrication sheet		H	-----		

H: Hold Point (Activity cannot proceed without approval). W: Witness (Activity may proceed if notification has been issued)

R: Review (Review of documentation). MS: Monitoring (Random monitoring). A: Audit





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- ✓ Product Drawings: Not only ordinary dimensional drawings but full technical detailed drawings can be provided to customers.

APPLICABLE RULES & REGULATIONS

MATERIAL REQUIREMENTS

WELDING REQUIREMENTS

NDT, GENERAL

NDT, WELDS

GROOVE HARDNESS

BALANSING

MARKING

WELDED JOINT

NDT

TYPE OF WELDS

WPQR

MATERIAL

Welding		Weld		Weld		Weld		Weld		Weld		Weld		Weld		Weld	
Welding	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld
Welding	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld	Weld

Proc	Qty	DESCRIPTION	Shaping	Material
1	1	Sheave - Rim	S355J2 EN 10025-2	S355J2L EN 10025-4
2	2	Sheave - Flange	S355J2 EN 10025-2	S355J2L EN 10025-4
3	1	Sheave - Hub	E355J2 EN 10025-1	S355J2L EN 10025-2
4	1	Sheave - Bore	S355J2 EN 10025-2	E355J2L EN 10025-1

Drawn	Date	Revised

Scale	Quantity	Mark	Vendor(S)	Material	Treatment	Ref. customer
%						



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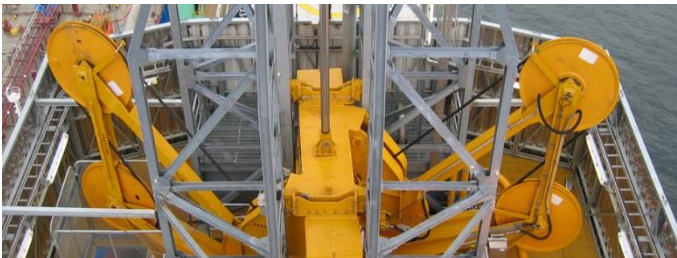


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• Advantages of use

Thanks to our design and manufacturing model, we got the know-how to reduce the weight of our pulleys up to 40% below the conventional forged or cast sheaves weight under equal working conditions. This significant difference in weight of our welded pulleys provides the following operational advantages for lifting and drilling systems:

- ❖ Allows cranes/drilling or lifting systems to work with higher loads.
- ❖ It occurs less wear to the lifting mechanism resulting in lower maintenance costs.
- ❖ Moments of very low inertia torque are produced. A low PD2, with the subsequent advantage of avoiding slippage between the sheave and the cable, reduces the wear on the sheaves throat.



• An exclusive customer service

From the initial stages of design and calculation, to final product completion and delivery of the goods, GOSAN offers a comprehensive service with tailor made solutions to each customer and each project needs.

We offer custom made products to meet the technical features & quality requirements of every supply need of our customers. Our daily activity is based on the following key pillars: customer counseling, support & monitoring, and quality.



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- **Oil & Gas Specials**

The core of GOSAN's production has always consist of sheave manufacturing. Pulleys has been always the product that has distinguish GOSAN. However, over the years and experience, we have developed the Know-how and the capacity to manufacture the group of products which we understand as a natural complement to our originally production of sheaves.

GOSAN catalog compromises today not only sheaves but: Hook blocks, Couplings, Wheels and a specified category of "Made Specials for Oil & Gas". The latter category comprehend a set of products that are in the use of the Oil & Gas industry. These products for specific projects, are made to measure by GOSAN under customers request. An example of the type of product that would fall into this category are: Blocks & Brackets, Swivels and Fairleads.



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- **Contact details**

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