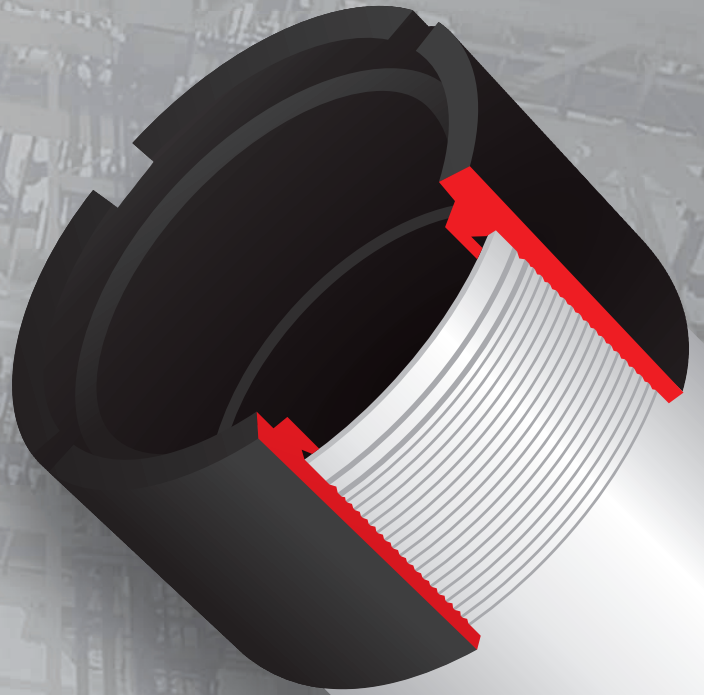


Innovative technology for

pipe protection



ExquiP[®]

CERTIFIED
QUALITY
MANAGEMENT
SYSTEM





A brief history of

Exquip Worldwide

Hamm / Germany



Exquip was established in 1988 in Germany as “Exquip Reu-GmbH” with the intention of manufacturing a totally recyclable thread protector. The idea was to manufacture a protector without using steel, which was predominantly used by all other manufacturers for product stability, but instead use a patented system for stability in larger sizes. Nine years later, the company built its own plant in Hamm, Germany. It was renamed in 2013 to “Exquip Germany GmbH” in conjunction with new management of the company. It has been extended to include another warehouse and outdoor storage areas in 2015.

Montrose / Scotland



In 1997, Exquip International Ltd was established in Aberdeen, Scotland, with the intention to deliver more service, stock, and increase distribution capabilities to our customers in the North Sea Oil & Gas market. Exquip International Ltd. moved to a larger warehouse in Montrose, Scotland in 2002.

Hockley / Texas



In 2000, Exquip USA LLC was established in Houston, Texas and production began in 2004. The company underwent a respectful growth period and in 2011 opened a second production facility in Hockley, Texas. Both Texas locations incurred improvements and expansions in 2015 utilizing the full capacity of their warehouse and yards.

By supplying protectors solely made from high density polypropylene within a diameter range from 2 3/8” to 52”, Exquip has a well-established and unique position in the Oil & Gas market. Since 2013, Exquip is a completely family-owned business with 100 employees worldwide and is growing alongside the rising Oil & Gas market.

Exquip Certifications

Exquip is certified in the ISO 9001:2008 International Quality Management Standard. Our Quality Management System covers all aspects of our operations to ensure the products and services we provide are to the highest possible standard and we continually review and improve our systems. For more detailed information on our certifications and up to date news, please visit our websites.

About

Exquip Products and Services

Exquip designed and manufactures over 800 different protector types. For example: protectors for the whole range of Casing Strings (Conductor, Surface, Intermediate and Production Casing), large-bore connectors as well as threadless protection for Casing Hangers, Wellheads and Marine Risers up to 52" in diameter.

Exquip also offers a wide range of Tubing and Drill Pipe Protectors (Standard API or Premium) and in addition Bumper Rings, Stabbing Guides or custom made transportation protection and storage tools. Exquip manufactures all moulds in house only at a fraction of the cost of standard injection moulds.

Exquip accompanies their customers through the development of new connector types by designing a protector from scratch, building prototypes and carrying out various tests. Also, by giving on-site service for implementing the new protectors in the field.

Exquip engineers are fully specialized to design solutions which deliver the highest protection properties and are easy to handle.

CNC Machined Quality

Exquip protectors are CNC machined, not moulded. This enables Exquip to control the clearance between the connection being protected and the protector which ensures a perfect fit with enough room for grease.

We use stringent quality controls during manufacture and complete regular product testing using specialized testing equipment. All protectors are thread tested prior to release.



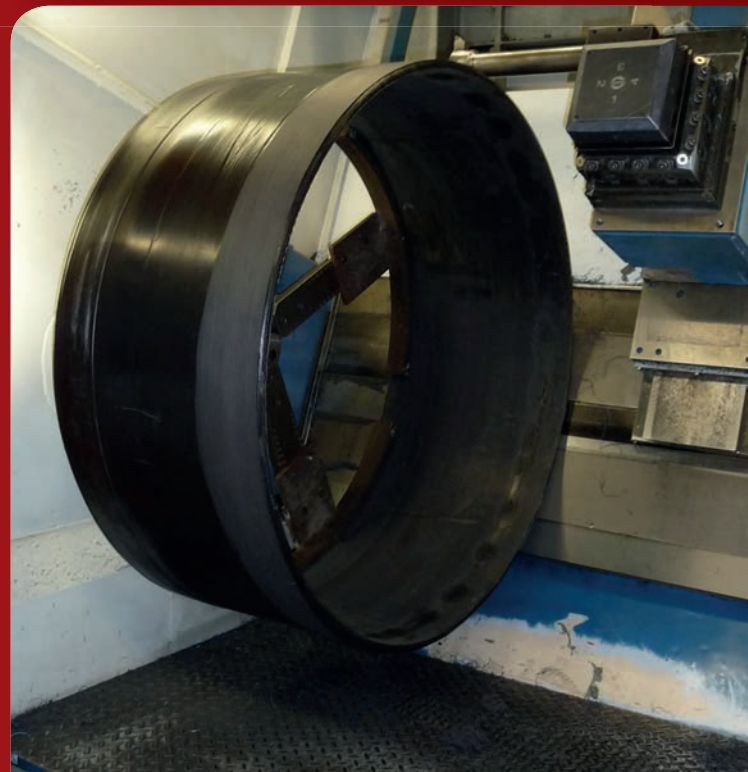
General Technical Information for Exquip Protectors

Exquip Protectors are designed, manufactured and tested to match & exceed:

- API 5CT Annex I
- IADC/SPE 17209 & 11396
- Tests for special designs with up to 5000 joules impact resistance

Properties:

- Material: HDPP (High Density Polypropylene, Impact Copolymer)
- Diameter range: 2 3/8" to 52"
- Temperature range: -46°C (-50°F) to 66°C (150°F)
- Threaded and Non-Threaded designs
- Exquip protectors are up to 70% lighter than conventional protectors
- High chemical resistance
- High strength elasticity and natural stability, no steel reinforcement
- UV stabilized
- Environmentally friendly: Exquip can, if required, recycle used Exquip protectors





Threaded & Non-Threaded Protectors (for Casing, Tubing, Drill and Conductor Pipes)



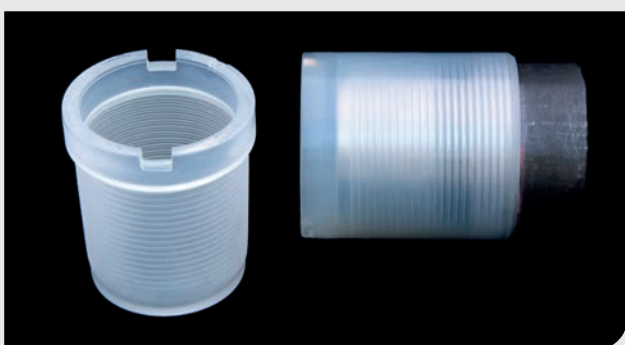
Exquip protectors are manufactured from HDPP up to 52" in diameter in almost every imaginable design. Especially for new threaded protector types, Exquip requires a sample connector – usually supplied by the customer – to assure a perfect fit of the threads. The protectors can be equipped with additional fixations or anti-rotation systems, almost all open end protector types can also be delivered in a closed ended version and vice versa.



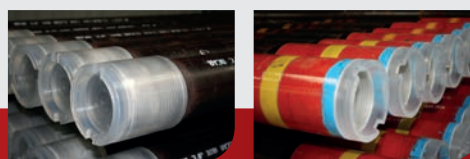
Standard Specifications

Material: HDPP —	Available Diameters: 2 3/8" – 52"	Average impact resistance at 21°C (69,8°F): 2 3/8" – 16": 2000-2500 joules 17" – 52": 2500 joules +	Standard Type (2 3/8" – 16"): Closed End (CE), 2 slots —
Standard colour: Black			Standard Type (17" – 52"): Open End (OE), 4 slots

Transparent Protectors

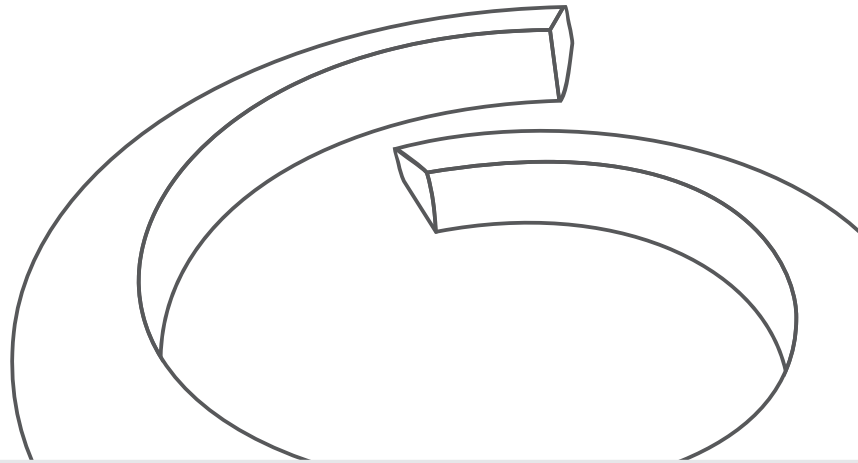


Exquip manufactures transparent protectors from 2 3/8" up to 16", that offer good contact transparency for visual thread inspection combined with good impact resistance. These protectors can be equipped with lip seals and/or silicone seals. Exquip has also modified the E/MAA copolymer for higher impact and brittle fracture resistance in cold temperature ranges, which usually is a critical environment for transparent polymers.



Standard Specifications

Material: E/MAA copolymer (advanced ethylene/methacrylic acid)	Available Diameters: 2 3/8" - 16" —	Standard Type: Closed End (CE), 2 slots —
	Impact resistance at 21°C (69,8°F): 3 1/2 - 8 3/4": 1400 joules	Impact resistance at -30°C (-22°F) 3 1/2 - 8 3/4": 1256 joules



Bumper Rings (Spacer Rings)



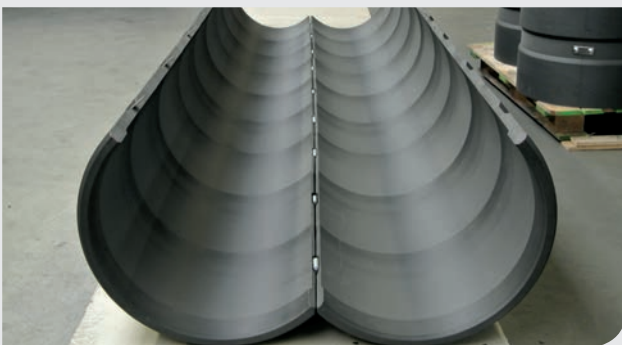
In order to protect pipe outside diameters against damage resulting from pipes hitting each other, Exquip manufactures bumper rings made of spirally-formed coloured polypropylene material. Exquip Bumper Rings are made slightly undersized for a tight fit but remain easy to install and remove within seconds. Other profile types or sizes are available on demand.



Standard Specifications

Material: HDPP	Available sizes: 2 7/8" - 24"	Usual number of rings per pipe length: 3
—	Profile cross section (depending on pipe diameter):	—
Standard colour: Blue (RAL 5015)	From 3/4" (19mm) high to 1 1/4" (32mm) high From 1/2" (13mm) wide to 7/8" (22mm) wide	Profile type: trapezoidal

Custom made Transportation & Storage Protection



If protection is required for special tools, large size connections or machines, Exquip can develop a solution. For example: Exquip designed and manufactured a 52" protector with a total length of 3 meters and a 22" hinged protector which can be connected and fixed through interlocks and locking plates up to 8 meters in length or more.



General Specifications

Material: HDPP	Available diameters: 2 3/8" - 52"	Available length: unlimited
—	—	—
Standard colour: Black	Impact resistance: up to 5000 joules	Other storage tools: Pipe Racks, Pipe Chocks & Riser Cradles



Bevel Protector Caps



Exquip Bevel Protector Caps come with a unique clamping geometry to ensure a snug fit and best protection of weld bevels.

Material:
HDPP

—
Available sizes:
3 1/2" – 16"

Bumper Zone Thickness:
15 mm



Riser Protectors



Exquip massive riser protectors protect main connection and auxiliary pipes within one protector solution.

Material:
HDPP

—
Specifics:
One-piece construction to cover the whole riser connection



Wellhead & Casing Hanger Protectors



Exquip manufactures reliable threadless heavy duty Wellhead and Casing Hanger protectors.

Material:
HDPP

—
Specifics:
800 mm length or more, heavy duty brass screws for fixation.





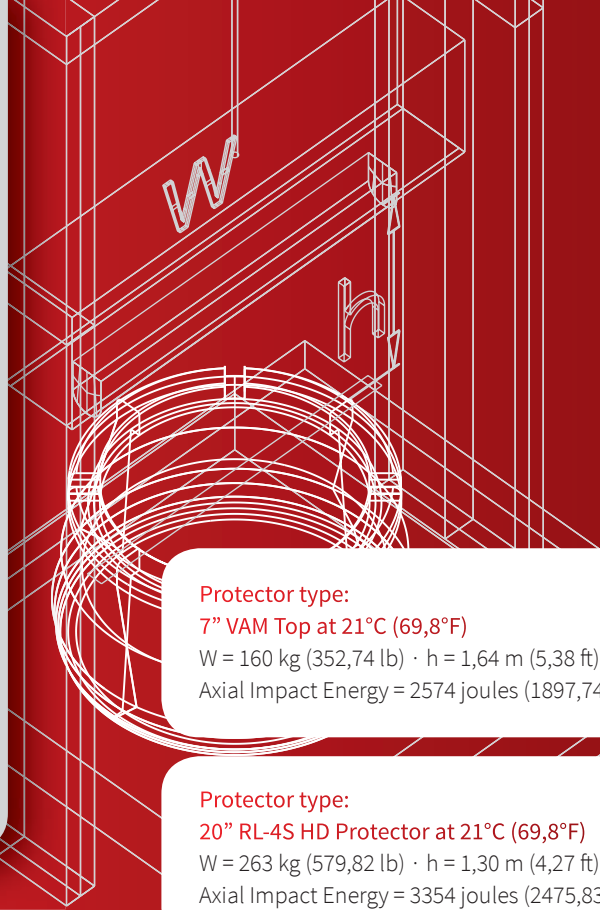
Impact Tests

EXQUIP protectors are continuously tested according to IADC/SPE 17209, 11396 and API 5CT Annex I to match and exceed these specifications.

High strength elasticity and natural stability achieved through utilization of advanced polymer engineering and self-developed manufacturing methods eliminates the need for steel reinforcements which is used as a dimension stabilizing element in composite protectors.

On site experience shows the positive relaxation characteristics of the material that prevents EXQUIP protectors from jamming even under the heaviest impact in the field.

Exquip will test new developed protector types due to customer requirements or API & IADC/SPE standards in house or – if requested – at an independent test laboratory.



Protector type:
7" VAM Top at 21°C (69,8°F)
W = 160 kg (352,74 lb) · h = 1,64 m (5,38 ft)
Axial Impact Energy = 2574 joules (1897,74 lb/ft)

Protector type:
20" RL-4S HD Protector at 21°C (69,8°F)
W = 263 kg (579,82 lb) · h = 1,30 m (4,27 ft)
Axial Impact Energy = 3354 joules (2475,83 lb/ft)

Stabbing Guides



Exquip heavy duty Stabbing Guides are handcrafted and offer highest reliability and durability.

Material:
HDPP, stainless steel
—
Specifics:
Heavy Duty fasteners, solid steel grips & forged hinges.



Customized Colours



Exquip offers a wide range of different colours based on the customer requirements.

Notes: The desired colour can be transmitted to Exquip according to RAL or Pantone color charts.
UV-Specifics: All processed colors are UV stabilized
Environmental Specifics: All processed colours are food safe and free from heavy metals.





Exquip[®]

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