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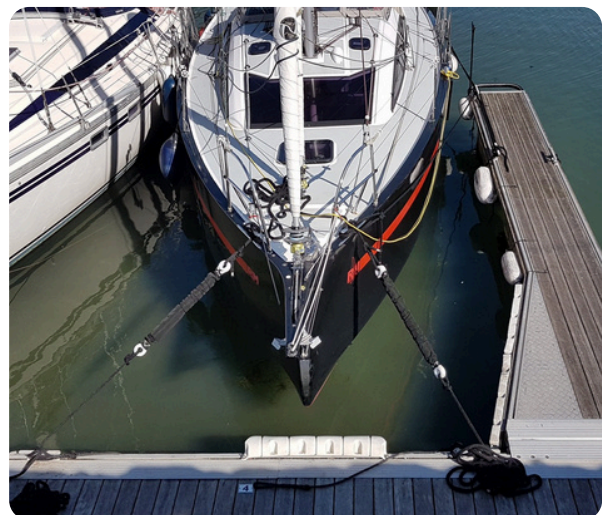
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# Temano® shock absorber

**Temano® Shock Absorber** is an elastomer-based system designed to absorb shocks, reduce line tension, and extend the lifespan of equipment.

Made from high-performance **natural rubber**, it features a Dyneema® textile core that provides passive safety even in the event of partial failure. An optional UV-resistant textile sleeve is available for added protection.

With an elongation capacity of up to 300%, it effectively dissipates energy caused by waves, wind, or currents, while preventing tension peaks.

A simple, robust, and corrosion-resistant design that makes it ideal for challenging marine environments.

## Technical description

Lenght	from 50 cm to +10 m
Outer diameter	60 mm
Inner diameter	20 mm
Weight	2,5 kg/m (without inserts)
Elongation	Up to 300% (4× its original length)
Absorbed energy	Up to 20 kJ/m
Hardness	45 shore A / 65 shore A



## Reference

Reference example: **100cm** shock absorber with **45 Shore A** hardness, protective **sleeve**, and **4m safety line** (4× shock absorber length).

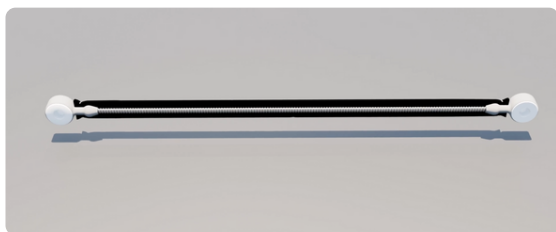
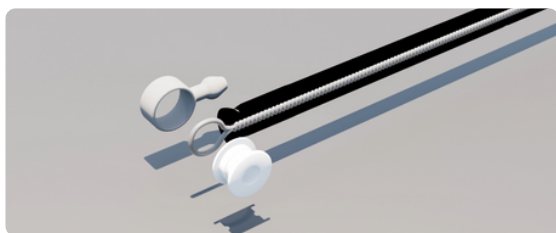
### Format

AM-[L]-[D]-[G]-[S]

AM-100-45A-G-S1

## Key to reference

Element	Signification	Example
AM	Temano® shock absorber	-
[L]	Lenght (cm)	50, 100, 200...
[D]	Shore A hardness	45 A, 65 A
[G]	Type of protective sleeve	GT = full sleeve GE = end sleeve
[S]	Safety line	S1 = with safety line S0 = without safety line



# Temano<sup>®</sup> shock absorber

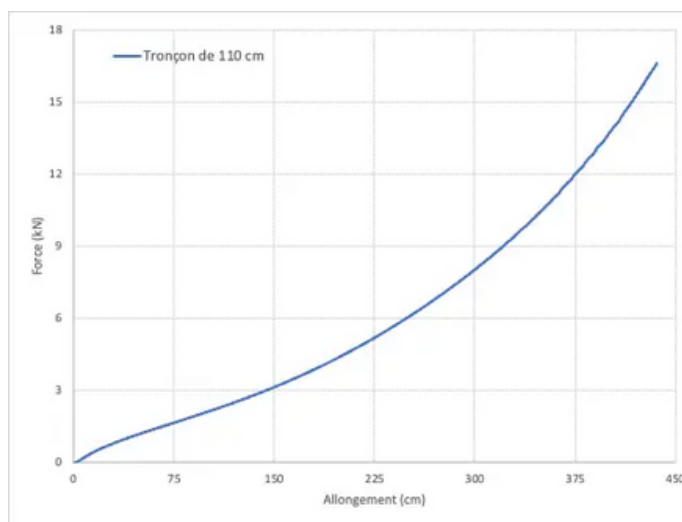
## Temano<sup>®</sup> shock absorber components

### Natural rubber

At TEMANO, we control various rubber hardness levels to precisely tailor our solutions to each need and the specific constraints of their marine environment.

#### Different characteristics and resistance capacities depending on the rubber hardness:

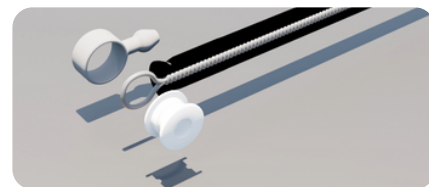
45 shore A Shock absorber	Elongation	Tension (kg)
	Initial lenght	0
	100%	220
	200%	400
	300%	700



65 shore A Shock absorber	Elongation	Tension (kg)
	Initial lenght	0
	100%	350
	200%	850
	300%	2500

# Temano® shock absorber

## Temano® shock absorber components



### Textile insert

Temano® shock absorbers are equipped with two **Dyneema® textile inserts**, which are lighter, more durable, and easier to handle than traditional stainless steel inserts.

Combined with a **HDPE ring** replacing the thimble, they reduce shear zones, enhance compatibility with textile components, and minimize wear and corrosion.

#### Technical description

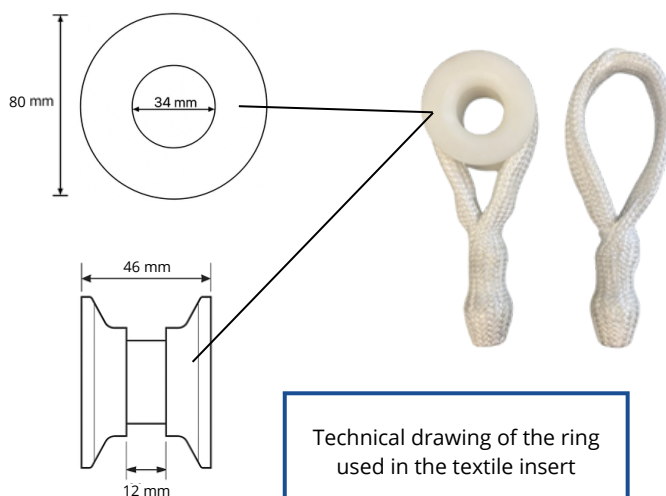
High strength

Lightweight and easy to handle

No corrosion

HDPE ring

The ring size can be customized according to your needs



Technical drawing of the ring used in the textile insert

### Safety line

The **Dyneema® safety line** is located inside each Temano® shock absorber, fully protected from the outside.

The safety line is shielded against UV and abrasion and does not interfere during handling. This internal positioning notably prevents any entanglement with the rest of the line, unlike existing solutions.

Dyneema® is known for its exceptional tensile strength, light weight, long lifespan, and resistance to seawater. It is a discreet yet essential component, ensuring the overall reliability of the mooring system.



#### Technical description

Material	Dyneema®
Lenght	4x shock absorber lenght (ex: 4m of safety line for 1m shock absorber)
Breaking load	5 to 10 T

# Temano® shock absorber

## Temano® shock absorber components

### Protective sleeve

To **improve the durability** of shock absorbers and ensure the protection of sensitive components, TEMANO offers protective sleeves specially designed to withstand the demands of the marine environment

Made from high-strength polyester and treated for **UV protection**, these sleeves extend the service life of the shock absorber.



Temano® shock absorber  
**without protective sleeve**



Temano® shock absorber  
**with protective sleeve**

# Temano<sup>®</sup> shock absorber

## Pricing of Temano<sup>®</sup> shock absorbers

Lenght (cm)	UV protective sleeve	Price excluding tax
50	With	250 €
	Without	280 €
100	With	480 €
	Without	550 €
200	With	750 €
	Without	880 €
300	With	1000 €
	Without	1200 €

**For longer elastomer lengths or multi-strand braiding: request a custom quote.**



**Braiding of 6 temano<sup>®</sup> shock absorber  
Ø 300 mm, length 3000 mm**

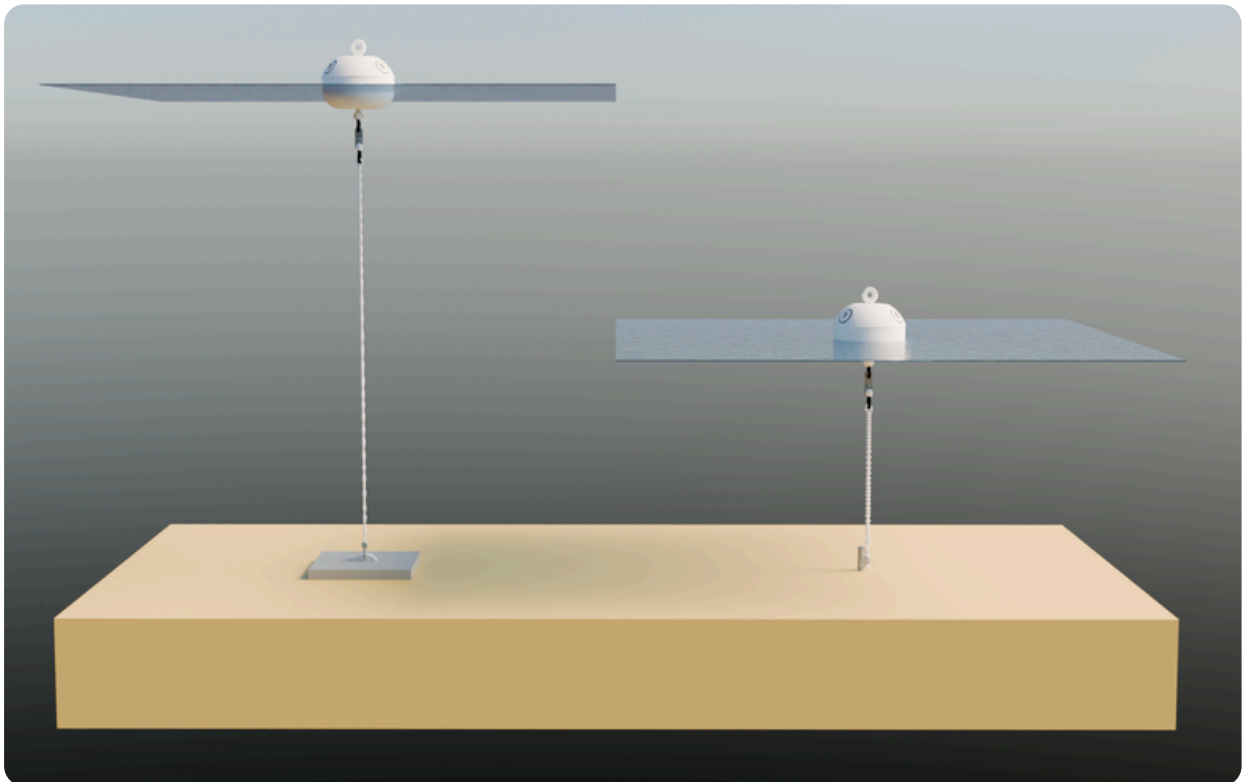
# Temano® sandow

**Temano® sandow** is made of natural rubber and protected by a sleeve. This sleeve serves a dual purpose: it provides protection against UV and fouling, and also acts as a safety line to limit the elongation of the shock absorber.

Each end of the shock absorber is equipped with an **HDPE ring** that facilitates the attachment of textile or steel shackles.

**No chain** is necessary in a mooring line composed of shock absorbers, allowing for a 100% textile line.

The mooring line remains **straight regardless of the tide**. It never touches the seabed, eliminating any risk of snagging and damage to underwater habitats.



**Temano® sandow under the influence of tides**

## Features & Benefits

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Keeps the buoy above its anchor

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Reduces the swinging radius

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Lightweight and easy to handle

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Adaptable to concrete block and Temano® anchors

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Reduces shocks and tension peaks in the line

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# Temano® sandow

	Breaking load	Elongation	Weight	Lenght	Rubber hardness	Reference
<b>Temano® sandow polyester sleeve Ø34mm</b>	<b>14T</b>	100% (2× its original length)	1.1 kg/m	from 0.5m to +10 m	45 shore A / 65 shore A	SAN-GP34-[lenght]-[hardness]
<b>Temano® sandow polyester sleeve Ø18mm</b>	<b>4.5T</b>	150% (2.5x its original length)	0.8 kg/m	from 0.5m to +10 m	45 shore A / 65 shore A	SAN-GP18-[lenght]-[hardness]
<b>Temano® sandow Dyneema® sleeve</b>	<b>4T</b>	200% (3x its original length)	0.8 kg/m	from 0.5m to +10 m	45 shore A / 65 shore A	SAN-GD-[lenght]-[hardness]



**Temano® sandow polyester sleeve Ø34mm**



**Temano® sandow polyester sleeve Ø18mm**



**Temano® sandow Dyneema® sleeve**

## Pricing of Temano® sandow

Sandow type	Price excluding tax
Sandow polyester sleeve Ø34mm	<b>100€ + 50€/m</b>
Sandow polyester sleeve Ø18mm	<b>60€ + 40€/m</b>
Sandow Dyneema® sleeve	<b>80€ + 45€/m</b>