WITHSTAND EXTREME MECHANICAL LOADS

GORE Spreader Cables are subject to extreme mechanical loading and widely varying atmospheric conditions. GORE Spreader Cables are specifically designed to meet these demanding conditions.

Applications

- Harbor Mobile Cranes
- Gantry Cranes
- Container Terminals

Technical Cable Specifications

Property	Value
Operating Voltage	600Vrms
Test Voltage	3500Vrms
Specific Insulation Resistance	>100MΩ x km
Operating Temperature Range	-30°C to +90°C
Oil Resistance acc. DIN VDE 0472 Part 803	ASTM Oil 1 to 3
Min. Bend Radius	300mm
Speed	>200m/min
Jacket Material	Special Thermoplastic
Abrasion acc. DIN 53516	30mm³ max

Cable Options

Construction	Gore Part Number
18 x 2.5 ²	GSC-02-23026-00
30 x 2.5 ²	GSC-02-22999-00
36 x 2.5 ^{2*}	GSC-02-22799-00
44 x 2.5 ²	GSC-02-22643-00





Key Features

- High tensile strength with extremely low elongation (see tensile strength test results)
- Low weight cables
- Resistant to jerky movements

Key Benefits

- Utilization on cylindrical and monospiral drums
- Extended life in harsh environments
- Fits to common strain reliefs
- No windspeed limits
- Lifts heights up to 130 m
- UV resistant

Mechanical Specifications

Construction	Weight kg/m	Diameter mm	Working Load N	Break Load N
18 x 2.5 ²	0.70	23.5 ±0.5	3000	11,000
30 x 2.5 ²	1.18	27.5 ±0.5	4000	15,000
36 x 2.5 ^{2*}	1.40	29.5 ±0.5	>4500	>20,000
44 x 2.5 ²	1.70	31.8 ±0.5	>4500	>20,000

 $^{{}^\}star\mathsf{This}$ construction was used for the external tensile strength test.

More detailed properties and specifications are available and can be shared for individual fitness-for-use purposes.



External Tensile Test

These results are from an independent test laboratory, DMT (Deutsche Montan Technologie GmbH, Car Division, Bochum).

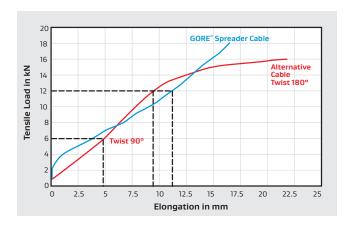
External Tensile Strength Test

	Elongation (mm/60 cm)		Elongation (%)	
Tensile Load (kN)	GORE Cable	Alternative Cable	GORE Cable	Alternative Cable
2	0.000	1.076	0.00	0.18
4	0.869	2.967	0.14	0.49
6	3.618	4.712	0.60	0.78
8	6.417	6.232	1.07	1.04
10	8.878	7.619	1.48	1.27
12	11.089	9.0307	1.85	1.55
14	13.043	12.505	2.17	2.08
16	14.752	21.78	2.46	3.63
Break at	26.8 kN	24.1 kN		

For other requirements (e.g., number of conductors, bus system) and/or installation instructions, please contact Gore.

Stress/Strain Diagram

Comparing GORE Spreader Cable (blue) with an alternative spreader cable (red).



Tensile Test Results

The tensile curve of the GORE Spreader Cable shows a proportional increase of elongation compared to the tensile load. An ePTFE binder isolates the conductors from the cable jacket so the strength members and cable jacket carry the tensile load. A transition from the elastic part to the plastic part of the curve cannot be seen.

The tensile curve of the alternative cable is completely different. The conductors are not isolated from the cable jacket so the conductors are twisted as the cable jacket elongates. After a 90° torsion of the conductors, they begin to carry most of the tensile load. The curve starts to flatten at 12 kN which indicates the end of the elastic and the beginning of the plastic part of the curve. At this point, the conductors have elongated beyond the plastic range.

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