SUCCESS THROUGH PERFECTION. The name TEUFELBERGER represents a solid corporate group with 3 strategic business divisions and more than 220 years of experience. More than 750 committed employees work for customers in more than 100 countries.

Together in motion. Whether for the transportation, fastening or securing of people and goods – our ropes, strapping materials and twines allow movement whilst at the same time keeping things together. We’re also continually moving in another sense of the word: Quick reactions to customer needs as well as continual innovation, improvement and diversification of our products are fundamental to our parts of corporate culture and typifies the dynamism which differentiates us.

Close collaboration with our clients and suppliers, the creation of synergy between the three technologies and the closeness of the family-owned company to its employees are further examples of what makes us unique.

We see ourselves as a provider of solutions for the optimal use of high quality products which guarantee our international customers a flawless operation and ensures the achievement of their goals. Above average know-how, new technologies and comprehensive service guarantee the highest levels of quality and reliability. We set standards in more than 100 countries with our three technologies of wire rope, fiber rope and extrusion.

WE CARE MORE FOR OUR CUSTOMERS

**WIRE ROPE**
- Crane ropes for cranes in the building industry, in harbours, on boats and offshore platforms
- Ropeway ropes for passenger and material ropeways as well as winch ropes for slope groomers
- Rope and safety: equipment for lifting, conveying and securing

**FIBER ROPE**
- Yachting ropes for motorboats and sailing boats
- Technical fiber ropes for industrial applications, technical winches and forestry applications
- Fall protection: harnesses and ropes for industrial applications, treecare
- Composite Braiding: composite fiber architecture for automotive, aeronautics and general industry

**FIBERS & PLASTICS**
- Strapping products for automatic packaging machines, for strapping of cans, papers, building materials, wood, fiber bales
- Baler twines for the rational mechanical harvesting of straw and hay

**WARNING**
Using these products may prove hazardous. Therefore, never use our products for purposes other than those they were designed for. Customers must ensure that all persons using these products are familiar with their correct use and the related necessary safety precautions. Please bear in mind that any of these products may inflict harm when used incorrectly or subjected to excessive loads.

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TEUFELBERGER Seil Ges.m.b.H. concentrates exclusively on the manufacturing, research & development, marketing and sales of high performance wire ropes: outstanding technologies for our products – the basis for our success.

"We care more for our customers" is the motto of TEUFELBERGER Seil Ges.m.b.H. Highly qualified employees are well aware of their responsibility. The close collaboration with our suppliers and joint development with OEM customers ensure that our products are conform to your needs 100%.

Two production locations with modern machinery, our own research and development department and close collaboration with the TEUFELBERGER sister companies ensures that our know-how is successfully optimised. From the natural gas industry, to harbors, construction and forestry, to cable cars for materials and persons, TEUFELBERGER high performance ropes and personal safety systems are perfectly tailored to your needs.

Innovation and quality consciousness for the benefit of our customers. Many years of collaborating with universities and research institutes as well as numerous key players in the replacement market inform our focus on customer needs. Research & Development are emphasized at TEUFELBERGER, which has a decentralized structure to promote synergy. Quality assurance plays a very important role in all areas. Our quality consciousness is reinforced through ISO 9001 as well as the fulfillment of industry specific norms.
Ropes for ropeways and slope groomers

Like no other company, TEUFELBERGER specializes in all key fields of application for steel wire ropes. As a consequence, we even succeeded in adapting technologies – that had originally been developed for the roughest of environments on drilling platforms or for special civil engineering applications – for ropeways and slope groomers. Through unique technological innovations such as the latest generation of SOLITEC® ropeway ropes or its STRESSLESS DATA fiber optics technology, TEUFELBERGER sets industry-wide standards. It goes without saying that we manufacture and install our products in compliance with the currently valid standards such as CEN.

Installation
The world’s largest installation and service team for ropeway ropes allows you to rest assured that these ropes are prepared and serviced perfectly for their use. TEUFELBERGER’s unique splicing technology guarantees the full functionality and efficiency of your systems. This helps improve the rope’s life span and also prolongs the required maintenance intervals, which in turn has a positive impact on operating costs.

TEUFELBERGER’s steel wire ropes belong to the best and most durable worldwide. Innovative spirit coupled with our more than 200 years of rope-making experience forms the basis of our success.
Our new SOLITEC® technology was developed in order to produce the most durable, long lasting, and flexible ropes in the industry. As a direct result of TEUFELBERGER’s refined manufacturing process, engineers are able to pinpoint a rope’s initial level of elongation in the earliest stages of production.

PLASTIC-COMPOUND-CORE

The braided and greased fiber insert of SOLITEC® ropes is equipped with a compact plastic cover. This helps achieve the perfect roundness of the insert and, at the same time, ensures extremely high resistance to tensile forces. Therefore, a SOLITEC® core cannot tear or break. During the stranding process, the cold strands are pressed into the plastic-compound-core.

SUPPORT PROFILES

TEUFELBERGER is the only manufacturer of ropeway ropes to strand all SOLITEC® ropes with pre-formed support profiles between the strands. This creates a perfectly even distribution between strands and does not allow strands to touch one another preventing friction corrosion and wire breakage.

The vibration-damping trapezoidal plastic support profiles are also used across the entire splicing zone in order to ensure perfect and consistent quality without weak spots throughout the entire length. In addition, the support profiles slide easily on top of the surface of the plastic-compound-core, during use, which helps to increase the overall lifespan of the rope.

YOUR BENEFIT

The precise dimensioning of the trapezoidal support profiles helps achieve an extremely high level of product consistency. The profiles fully fill all available spaces between the strands. This ensures low-vibration running characteristics and minimized noise. Furthermore, the annoying “settling” of the rope while leaving it to hang or letting it run in the unloaded (empty) state is a thing of the past. Most of the initial elongation is already anticipated in the production process. However, a slight elongation of the rope that is required for the operator, e.g. for splice regeneration, will be available throughout the entire service life of the rope.

Advantages of the SOLITEC® Technology:

- Extremely long service life
- Very low elongation
- Perfectly round rope geometry
- Symmetrical distribution of strands and permanent avoidance of contact between strands
- Breakproof plastic compound core
- Permanently greased fiber core without leakage of grease
- High elasticity and flexibility
- High dimensional stability to lateral pressure
- Full spliceability with Lo-Stretch® ropes
TEUFELBERGER prides itself on understanding our customers’ needs. Our top-quality high performance ropes achieve the highest levels of safety, reduce costs for maintenance and replacement, and have a very long service life.

SUPERFILL® COMPACTION TECHNOLOGY

Our compaction technology has been developed in close collaboration with universities and independent research institutes. Each strand of the rope is compacted by means of a special process, translating into a substantial improvement in the rope’s properties:

Reduction of internal stress
Wires can withstand higher operational stress, resulting in longer service life.

Smother surface and smaller specific load
means less abrasion on the rope and less wear on the rope pulleys.

Increased metallic rope cross-section
Up to 10% higher breaking force than conventional ropes allows the use of smaller rope diameters.

Laminar contact of wires
means less internal wear and longer service life. Less subsidence of strands reduces permanent rope elongation, especially in long ropes.

Laminar contact of rope and grips
Increased stability against lateral pressure and decreased laminar pressure of rope and grip for longer service life of wires. Bigger surface between rope and clamp, thus higher friction and reduced risk of slipping grips.

Increased torsion stability
Higher resistance against external impacts (e.g. torsion), thus smoother operation of the system and higher life time. Less wear of clamps during detaching process.

PLASTFILL™ INSERT

This lubricated steel core is injection-molded with a compact plastic cover.

Advantages:
- Long service life due to permanent lubrication,
- Robust enough to prevent deterioration through pressing and lateral pressure,
- Higher breaking loads due to reduced rope friction ratios

The strands are embedded in the plastic cover during the closing process

Advantages:
- Exact positioning of strands plus even strand gaps reducing inner abrasion
- Consistent load balancing of all components through optimized construction
Our Stressless technology also plays "a supporting role" in aerial cableways, aerial ropeways for goods, cable cranes and mining. This innovative technology can be used in more of a "classic" role with an exclusive "carrying function" or as "DATA" with integrated fiber optics.

**STRESSLESS Technology**
This technology is based on the principle of guide slide bearing, which has been proven for decades to be the ideal method of wire preforming. During the guide slide procedure the profile wires are brought to the closing point in a special method which best protects the surface. It takes special skill to bring the wire to exactly the point which corresponds to the diameter of the rope – a guarantee that the rope will remain neutral during handling (e.g. during the hoist) and that the outer wire is quickly integrated into the rope system in the event of exterior damage and will not jump out. We were able to perfect this technology through innovative tool design in conjunction with the most up to date insights into the plastic characteristics of profile wires. STRESSLESS thus represents a particularly non-spinning construction and production which definitely facilitates the installation first and foremost.

**3D CAD Technology**
Using modern 3D CAD and spark-erosion technologies, we have developed tools which best take into account the three dimensional inclination and twisting of the spiral form. Optimized preforming during the cabling process is guaranteed by the exact calculation of the tension necessary for the spiral form and the grade of the wires. In this way a virtually stress-free wire with solid profile wire construction can be produced which demonstrates a particularly high resistance to the stress exerted by the rollers. The name of this gentle treatment is STRESSLESS because there is no strain on the rope, no stress in the installation, and no stress in the operation. STRESSLESS ropes were developed through the intelligent combination of proven technologies and the most up to date skills.

**The Simplest Handling**
Due to our detailed constructive explanation together with the most modern production methods, STRESSLESS ropes remain spin-resistant to the greatest possible extent even during tensile stresses (e.g. during hoisting and installation). As the supplier, we would be pleased to assist you with the design of a perfectly coordinated mainline or assembly line, in order to help make the tedious "clamping" during the hoist a thing of the past. We can rely on decades of experience in this area of the development and manufacture of spin-resistant crane ropes.

**The revolutionary STRESSLESS DATA Technology**
This incorporates the valuable fiber optics bundles securely in the carrying rope. Operators of aerial passenger ropeways, aerial cableways for goods and crane cable systems benefit from the simple and extremely well protected network of data connections.

**Innovative Data Security**
STRESSLESS DATA guarantees maximum data security throughout the life of the rope which usually exceeds that of the ropeway. The fiber optics system is contained in gel-filled stainless steel tubes. These stainless steel tubes are effectively protected from any outside influences by means of a synthetic coating. This cover also prevents possible corrosion caused by potential differences between the steel tubes and the rope wires.

Another invaluable advantage of this cable construction is the possibility to achieve end terminations by means of metal capping without affecting the fiber optics. Metal capping conforms to CE regulations and has demonstrated an extreme longevity.
Safety and reliability are indispensable preconditions for cables in the domain of aerial ropeways. Constantly increasing requirements for carrying capacity and operational time impose extraordinarily high demands on the quality and the service life of the cables. In addition, rail operators and passengers make high demands for riding comfort. TEUFELBERGER cables are ready to meet these demands in the best way possible with the use of groundbreaking cable technologies such as SOLITEC® and SUPERFILL®. Of course our cables conform to international safety requirements and standards such as ISO and CEN.

**YOUR ADVANTAGE**

- **High Safety Levels and Quiet Operation**
  Perfectly round ropes, exact and consistent diameters to prevent false coupling and secure the clamps’ hold on the ropes
- **Highest Breaking Load**
  thanks to high level wire solidity i.e. SUPERFILL®-compacting technology
- **High Level Service Life**
  thanks to SOLITEC® i.e. STRESSLESS Technology
- **Cost Savings**
  Economical thanks to extreme durability. Maintenance can be planned ahead due to controlled elongation (minimum shutdown times) i.e. longer replacement intervals for track ropes in multiple rope carrying systems.

**PRODUCT PROGRAM**

**Round Strand Ropes as Hoist and Haulage Ropes:**

- **PP 6-strand**
  Classical hoist rope for fixed clamped systems as well as for use in aerial ropeways
- **SOLITEC® 6-strand (SUPERFILL®)**
  for detachable systems at high speed
- **SOLITEC® 8-strands (SUPERFILL®)**
  for systems requiring extremely quiet operation and bending cycle stability as well as a very long service life; particularly for rail guided trains or city transit systems

**Ballast Ropes:**

- **216WS+FC/216 WS+SC Warrington-Seale**
  6 or 8 strand cables with fiber or steel cores in parallel construction

**Fully Locked Coil Carrying Ropes:**

- **STRESSLESS 2Z – 6Z (DATA)**
  Fully locked coil carrying ropes for multiple rope carrying systems with up to 6Z-wire layers and a maximum diameter of 110 mm
Aerial tramways require special carrying and hauling ropes due to their long span construction and the need for a concentrated rope design. With its cable production in St. Aegyd, TEUFELBERGER is considered a pioneer in the manufacturing of cables for aerial cableways. Our carrying ropes do their job for the entire life of the rail – reliably, maintenance free and with the utmost riding comfort.

**YOUR ADVANTAGE**

- **High Safety Levels and Quiet Operation**
  Perfectly round ropes, exact and consistent diameters

- **Highest Breaking Load**
  thanks to high level wire solidity i.e. SUPERFILL®- compacting technology

- **Longer Fatigue Life**
  thanks to SOLITEC® i.e. STRESSLESS Technology

- **Cost Savings**
  Economical thanks to extreme durability, maintenance can be planned ahead due to controlled elongation (minimum shutdown times) i.e. longer replacement intervals for carrying ropes.

**PRODUCT PROGRAM**

**Haulage/Counter Ropes:**

- **PP 6-strand**
  The variant for standard application with excellent cost/performance ratio

- **SOLITEC® 6-strand (SUPERFILL®)**
  The top cable for highest service life, quiet operation and controlled low elongation

**Ballast Ropes:**

- **216WS+FC/216 WS+SC Warrington-Seale**
  6 or 8 strand ropes with fiber or steel core in parallel construction

**Fully Locked Coil Carrying Ropes:**

- **STRESSLESS 2Z – 6Z (DATA)**
  Fully locked coil carrying ropes with up to 6 layers of Z-Wire and a maximum diameter of 110 mm

**Hercules Ropes:**

For the upgrading of existing systems
Cable Cranes are considered to be the greatest challenge for aerial ropeway cables. Exposure to high tonnage loads and frequent usage in a dusty environment cannot be allowed to contribute to a breakdown of the crane ultimately resulting in a work stoppage in the construction site. TEUFELBERGER is considered to be the leading supplier of ropes in the entire world, based on the number of cable cranes. Our excellent reputation applies not only to our ropes, but also to our installation team in charge of the frictionless operation on the construction site.

**YOUR ADVANTAGE**

- **Highest Level Service Life**
  The special wire ropes we have developed are equipped to meet their specific requirements and thus facilitate use with a minimum amount of abrasion.

- **Reliability and Load Capacity**
  The refined construction and computer-optimized technology has been especially developed for maximum exposure in the transport of goods. The exclusive use of first class raw materials guarantees maximum load capacity of the ropes without failure.

- **Best Cost/Performance Ratio**
  TEUFELBERGER is one of the world’s greatest manufacturers of ropes for the transport of goods. Our experience together with the size of our operation gives our customers the assurance that they are utilizing the best product available in the best quality. In the consideration of all aspects this results in a very good cost/performance ratio in the ongoing operation.

**PRODUCT PROGRAM**

- **Fully Locked Coil Carrying Ropes:**
  - STRESSLESS 2Z – STRESSLESS 6Z
    Fully locked coil ropes with up to 6 layers of Z-Wire and a maximum diameter of 110 mm

- **Haulage & Driving Ropes:**
  - PP 6-strand
    All purpose round strand ropes with PP cores

- **SOLITEC® 6-strand**
  The top rope for fatigue life, quiet operation and controlled low elongation

- **Hoist Ropes:**
  - QS 816 V, EVOLUTION TK 16
    Regular lay rope with PLASTFILL™ core and SUPERFILL®- compacting technology
TEUFELBERGER has been the developer and producer of winch ropes for the grooming of ski slopes “from square one.” Today we manufacture customized, specially constructed ropes for all available winch systems and supply retailers of original equipment as well as end users for replacement of ropes.

**YOUR ADVANTAGE**

- **Highest Flexibility**
  Especially our 8 and 9 stranded specialty ropes are suited for use with a high number of bending cycles due to their flexibility.

- **Highest Breaking Load**
  The SUPERFILL®-compacting technology extends extraordinary breaking force to our ski lift winch ropes.

- **Longer Service Life**
  The special construction of our slope groomer winch ropes with high transverse pressure stability and technologies like SUPERFILL® and PLASTFILL™, as well as special lubrication provide our ropes with a high fatigue life of often more than 1000 hours of operation. The smooth surface makes our ropes particularly resilient under highly dense snow or ice conditions and other external influences.

- **Know-how and Service**
  As developers and producers of ski lift winch ropes from “square one” as well as suppliers for winch manufacturers in the original equipment we have access to decades of experience. We can provide you with the best rope and are at your disposal even during your hours of operation, perhaps with our service team, which is available around the clock, or by providing support in the form of our technical service manuals.

**PRODUCT PROGRAM**

**Ropes for ski slope equipment with drum winch systems:**

**QS 808 S**
The 8 strand galvanized high performance rope with strand compaction and plastified inner rope for the highest flexibility and durability, suitable for example for all Prinoth drum winches

**Ropes for Ski Lift Equipment with Capstan Winch System:**

**BS 909 S**
9 compacted and galvanized outer strands for the highest flexibility and robustness; suited e.g. for Prinoth equipment with capstan winch

**BS 909 SQ**
The plastified version for maximum fatigue life and resistance, suitable for example for Kässbohrer equipment
**ROPEWAYS AND SLOPE GROOMERS**

**RECOMMENDED WIRE ROPES**

<table>
<thead>
<tr>
<th>ROPE</th>
<th>Ø mm</th>
<th>CHARACTERISTICS</th>
<th>SOLITEC®</th>
<th>SUPERFILL®</th>
<th>PLASTFILL®</th>
<th>SKI-LIFT</th>
<th>SINGLE ROPE CIRCULAR SYSTEM/FIXED</th>
</tr>
</thead>
<tbody>
<tr>
<td>PP 6L</td>
<td>5–32</td>
<td>the well-priced “classic” with a permanently lubricated fiber core</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOLITEC® 6L</td>
<td>23–58</td>
<td>high-tech rope with highest service life, quiet operation &amp; optimal elongation</td>
<td>✅</td>
<td>✅</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOLITEC® 8L</td>
<td>25–60</td>
<td>8 strands, high bending cycle stability, fatigue life and perfect riding comfort</td>
<td>✅</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BALLAST ROPES</td>
<td>8–70</td>
<td>reliable and durable carrier of tension weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STRESSLESS 2Z-6Z (DATA)</td>
<td>51–110</td>
<td>our carrying ropes are optimally calculated especially for your use; with or without incorporated fiber optics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QS 816 V</td>
<td>10–48</td>
<td>high flexibility and shock resistance, best transverse pressure form stability</td>
<td></td>
<td>✅</td>
<td>✅</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EVOLUTION TK 16</td>
<td>12–42</td>
<td>the world’s best hoist rope with the highest breaking force and high flexibility</td>
<td></td>
<td>✅</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QS 808 S</td>
<td>10-11</td>
<td>6 strand all purpose rope for high requirements</td>
<td></td>
<td>✅</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BS 909 S (Q)</td>
<td>11</td>
<td>9 strand galvanized construction for highest flexibility, fatigue life and robustness</td>
<td></td>
<td>✅</td>
<td>✅</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE**

Since we are long-time suppliers of ropes, our recommendations regarding these products merely represent non-binding estimates based on experience. You will want to take into consideration all the aspects of your system. Please contact us to find the best rope for your needs. Technical specifications are subject to change and misprints and sentence errors are excepted. *Langs lay ropes can only be used with multiple layer winding (on the drum) and must undergo regular, non-destructive testing.*
<table>
<thead>
<tr>
<th>Hoist rope</th>
<th>Winch rope</th>
<th>Ballast rope</th>
<th>Carrying rope</th>
<th>Hauling-carrying</th>
<th>Hauling-driving rope</th>
<th>recommended option</th>
<th>alternate option</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINGLE ROPE CIRCULAR SYSTEM/COUPLING OPTION</td>
<td>MULTIPLE ROPE CIRCULAR SYSTEM</td>
<td>AERIAL CABLEWAY</td>
<td>GROUND Funicular/ CityRail System</td>
<td>AERIAL ROPEWAY FOR GOODS</td>
<td>CABLE CRANE</td>
<td>SKI LIFT MACHINE + DRUM WINCH</td>
<td>SKI LIFT MACHINE + CAPSTAN WINCH</td>
</tr>
</tbody>
</table>

Note: The table represents different types of ropes and systems used in various applications. Each cell contains icons representing the types of ropes and systems mentioned.
Hauling/Carrying rope with fiber core. The “Classic” among cable-way ropes is provided with a permanently lubricated core made of polypropylene. This combined with the 6 stranded construction makes this well-priced rope the flexible all-rounder for tour cableways and tramways.

**YOUR ADVANTAGE**
- Long Service Life due to permanently lubricated fiber core
- Maintenance-friendly Use due to controlled lubrication of the strands
- High Elasticity and flexibility
- Controlled Elongation for calculable maintenance expenditure

**FIELD OF APPLICATION**

Hauling/Carrying Rope:
- Particularly for aerial tramways and fixed clamped tour cableways such as tow lifts and chair lifts

**SPECIFICATIONS**

Ungalvanized or galvanized wires
Grades: 1770 – 2160 N/mm²
Hauling/Carrying rope with plastic-compound-core and support profiles. The SOLITEC® rope stands out especially with its extremely long service life and optimum flexibility. It provides for the highest traveling comfort and low-noise operation for your passengers.

**YOUR ADVANTAGE**

- With its stranded-in vibration-dampening trapezoidal profile tails, the unique SOLITEC® technology ensures accurate dimensioning and, in this way, helps avoid waviness in the rope. In addition, the symmetrical distribution of strands guarantees highest traveling comfort through low-vibration and low-noise running characteristics.
- Its plastic profile tails help avoid that the strands contact one another and, in this way, enhance the rope’s life span considerably. The permanently greased fiber core and the plastic-compound-core are breakproof, tearproof, and increase the rope’s service life even further.
- Little, controllable required maintenance, as the annoying "settling" of the rope no longer needs to be carried out by leaving the rope hang or letting it run in the empty state, but most of the initial elongation is anticipated already in the production process.
- The ropeway system and the environment are protected by avoiding any escape of grease.
- High elasticity and flexibility thanks to the special design.
- Full spliceability with Lo-Stretch® ropes.

For more information, see pages 07 – 08.

**FIELD OF APPLICATION**

Hauling or hauling/carrying rope for
- detachable circulating monocable and bicable ropeways
- fixed-grip circulating ropeways with special low-noise and elongation requirements
- reversible ropeways
- funiculars

Special circumstances call for special solutions:
The ever increasing transport capacities of state-of-the-art ropeway systems call for thicker and heavier ropes. They, in turn, require rope wheels of larger diameters, ultimately resulting in higher total system costs. TEUFELBERGER solves this problem by using SUPERFILL® compaction technology.

**SPECIFICATIONS**

Galvanized or ungalvanized wires
Grades: 1770 – 2160 N/mm²
Hauling/Carrying rope with plastic-compound-core and support profiles. This 8-strand construction guarantees passengers maximum traveling comfort and low-noise operation.

**YOUR ADVANTAGE**

- **Especially systems** used in urban zones require extremely low-noise operating characteristics. As a result of their design, 8-strand ropes have smaller strand valleys and a larger outer surface, which makes them run very quietly.

- **Other advantages versus 6-strand ropes:**
  - very low in noise
  - less wear on sheaves
  - high flexibility
  - high torsion resistance

- **8-strand ropes can**, like 6-strand ropes, be spliced by trained qualified staff

You will find more information about our technologies on pages 07 – 08.

**FIELD OF APPLICATION**

**Hauling or hauling/carrying rope** designed especially for

- systems used in urban zones
- funiculars
- all types of passenger ropeways with special requirements

**Special circumstances call for special solutions:**
In the light of the ever increasing transport capacities of state-of-the-art ropeway systems, steel wire ropes need to satisfy higher performance requirements. With TEUFELBERGER’s SUPERFILL® compaction technology, higher breaking forces are obtained, even though the rope’s diameter stays the same. The outcome is higher-performing steel wire ropes for state-of-the-art systems that would not be available, were it not for this technology.

**SPECIFICATIONS**

- Ungalvanized or galvanized wires
- Grades: 1770 – 2160 N/mm²

* SUPERFILL®  ■  PLASTFILL™  ■  SOLITEC® 8L SUPERFILL®
STRESSLESS 2Z-6Z

Fully locked coil carrying ropes with a varying number of Z formed wires. Perfect where there are great altitude differences and wide spans necessitating high breaking force and smooth surfaces. Decades of experience and our commitment to high quality guarantee that our ropes resist abrasion and have an exceptionally long service life.

YOUR ADVANTAGE

- Greatest handling ease during installation due to low spinning effect in the construction and manufacture
- Maximum breaking force
- Protection for the interior of the rope from corrosion by gap-free intertwined profile wires
- Ideal running surface for pulleys due to smooth rope surface without gaps or valleys
- Individual broken Z-Wires have no negative effects on the rope structure
- Minimal adhesion of snow and ice
- Available in both galvanized and heavily galvanized versions

FIELD OF APPLICATION

Carrying Rope for:
- Passenger ropeways
- Goods transport
- Crane systems
- Mining industry

SPECIFICATIONS

Max. diameter 110 mm
Standard up to 6 profile layers; more on request
STRESSLESS DATA with up to 42 fiber optics (depending on rope diameter)

Please take note of the special information in respect to our unique STRESSLESS and STRESSLESS DATA Technologies on page 09.
Fast and secure data connections are an important component of the infrastructure of modern ski areas, alpine support bases and large construction sites. The development of mountain regions by means of high-performance data systems represents a cost intensive investment for the ropeway operator under normal circumstances – not so, however, with STRESSLESS DATA. The revolutionary STRESSLESS DATA Technology integrates valuable fiber optic bundles securely into their carrying ropes.

**YOUR ADVANTAGE**

- **Maximum Data Security**
  The optical fibers are enclosed in gel-filled stainless steel tubes and wire ropes. These are in turn reliably protected from any outside influences such as rope rotation, elongation or high temperatures with a synthetic coating and will last for decades. The coating also prevents the danger of corrosion caused by potential differences between the stainless steel tubes and the wire ropes. The construction which is a pending patent from TEUFELBERGER offers the opportunity to provide for end terminations using metal grouting without affecting the sensitive optical fibers, which must not be exposed to high temperatures. Metal socketing are established conforms to CE standards and has been proven to be extremely durable.

- **Reduced Investment Costs**
  The integration of fiber optics into the cableway rope eliminates the need to invest in a separate cable guide. STRESSLESS DATA integrates up to 42 optical fibers, depending on the rope’s diameter.

- **No Maintenance Costs**
  The optical fibers in STRESSLESS DATA ropes are completely maintenance-free and therefore no follow-up costs are incurred.

**FIELD OF APPLICATION**

**Carrying Rope** for:
- Passenger ropeways
- Goods transport
- Crane systems
- Mining industry
- protected, secure transmission of high volume data

<table>
<thead>
<tr>
<th>Diameter Ø mm</th>
<th>Number of fibers</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 – 44 mm</td>
<td>18 fibers per rope</td>
</tr>
<tr>
<td>45 – 49 mm</td>
<td>24 fibers per rope</td>
</tr>
<tr>
<td>50 – 54 mm</td>
<td>30 fibers per rope</td>
</tr>
<tr>
<td>55 – 59 mm</td>
<td>36 fibers per rope</td>
</tr>
<tr>
<td>from 60 mm</td>
<td>42 fibers per rope</td>
</tr>
</tbody>
</table>

The number of fibers will have to be adjusted to the needs of your network connection. We will be pleased to advise you.

The data given here are for reference only. We will gladly calculate the exact values for your needs. As a rule, at lengths from about 300 m the fibers are single mode. Under approx. 300 m lengths multi mode fibers can be used. Greater rope diameter and other numbers of fibers are available upon request.
QS 816 V

Extreme resistance to negative external influences distinguish this rope from the others. TEUFELBERGER’s SUPERFILL® compaction technology ensures high breaking forces, translating to optimum operational safety. The combination of the design of the inner rope and the PLASTFILL™ yield the highest levels of stability against lateral pressure.

YOUR ADVANTAGE

- Reliability and safety during operation due to extremely high breaking loads.
- Cost reduction due to reduced rope abrasion, longer service life and reduced maintenance intervals
- Trouble-free operation resulting from excellent absorption of bangs and vibrations
- Long service life due to smoother rope surfaces
- Outstanding winding characteristics resulting from high stability against lateral pressure
- Permanent lubrication due to PLASTFILL™ insert

FIELD OF APPLICATION

Hoist rope for
- Cable cranes
- Industry cranes
- Harbour mobile cranes or container cranes

SPECIFICATIONS

| QS 816 V in ordinary lay, left and right lay | 8 x K26WS EPIWRC (K) |
| Grades: 1770 / 1960 / 2160 N/mm² |
| Number of wires in the outer strands: 208 |

MULTI-LAYER WINDING

SUPERFILL® ✔  PLASTFILL™ ✔
EVOLUTION
TK 16

Revolutionary design, high-quality material and optimal production processes – the new EVOLUTION TK 16 combines all the features you require for your application: Highest breaking loads and high flexibility!

YOUR ADVANTAGE

- **Highest breaking loads worldwide!**
  A new rope structure and the SUPERFILL®-compaction technology together achieve the highest breaking loads worldwide for strand-compacted ropes – translating to more safety during operation.

- **Minimum rotation with high torsion stability**
  The rope’s superior torque or turn characteristic ensures smooth and safe transportation of loads.

- **Higher flexibility**
  Rope flexibility provides very good spooling conditions for multi-layer winding and a smooth lifting procedure under extreme conditions. The rope additionally absorbs high dynamic load.

- **Longer service life, higher profitability**
  Ropes designed for long-term use - by further improving production processes, the high quality product of hoist ropes has been increased. The PLASTFILL™ insert between the inner rope and outer strands provides additional protection against corrosion. Your decision on EVOLUTION TK 16 affirms increased productivity, long-term cost reduction and enhanced competitiveness.

FIELD OF APPLICATION

- **Hoist ropes** are used for all crane installations such as:
  - Cable dredgers

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Multilayer Winding</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td><strong>Ordinary lay</strong></td>
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<tr>
<td><strong>12-30 mm</strong></td>
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<tr>
<td><strong>1770 / 1960 / 2160 N/mm²</strong></td>
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SUPERFILL® ✔  PLASTFILL™ ✔
8-strand, galvanized winch rope for drum winches, with a plastified steel insert and SUPERFILL® compaction technology. Highest service life and flexibility are the hallmarks of this slope winch rope.

**YOUR ADVANTAGE**
- Top-notch rope in OEM quality
- Longer service life due to highest flexibility under high numbers of bending cycles
- Highest breaking forces thanks to SUPERFILL® compaction technology, also in the inner rope
- Excellent winding behavior

**FIELD OF APPLICATION**
Slope groomers with drum winch system
- Withstands highest loads, suited for example for all Prinoth drum winches
- Available in diameters of 10 mm and 11 mm.

**SPECIFICATIONS**
Ordinary lay, right lay, galvanized
Grades: 2160 N/mm²
Number of wires in the outer strands: 136

SUPERFILL®  ✔  PLASTFILL™  ✔
BS 909 S (Q)

9-strand galvanized winch rope for capstan winches, in double parallel design with compacted outer strands, as BS 909 SQ with plastified inner rope. A top-notch rope that meets the highest demands.

**YOUR ADVANTAGE**

- **Long service life** ensured by highest flexibility under high numbers of bending cycles
- **Highest safety** thanks to the high breaking force and simple handling for the operating staff due to a flexible rope structure
- **Excellent value for money**

**FIELD OF APPLICATION**

Slope groomers with capstan winch system
- Resists the highest loads
- BS 909 S: suited for Prinoth capstan winches
- BS 909 SQ: suited for Kässbohrer capstan winches
- Available with a diameter of 11 mm.

**SPECIFICATIONS**

Ordinary lay, right lay, galvanized (BS 909 S) i.e. plastified rope interior and galvanized outer strands (BS 909 SQ)

Grades: 1960 N/mm²

SUPERFILL® *PLASTFILL™ 'BS 909 SQ
TEUFELBERGER has over 200 years of experience in the manufacture of ropes, ranging from hemp ropes and steel ropes to fiber ropes.

- **1790** Hans Teufelberger produces his first hemp rope
- **1791** Mozart composes the opera „The Magic Flute“
- **1886** K. F. Benz develops the first automobile
- **1931** TEUFELBERGER produces the first Perlon climbing rope
- **1940** TEUFELBERGER produces the first steel rope
- **1955** The Austrian treaty is signed on 15th May
- **1965** The first extrusion system is commissioned - replacing all natural fibers
- **1982** TEUFELBERGER develops the first wire rope using SUPERFILL® compaction technology
- **1989** The Berlin Wall falls on 9th November
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- **2001** Takeover of the former VOEST-rope production facility in St. Aegyd/Lower Austria
- **2006** TEUFELBERGER launches the synthetic rope STRATOS®

OVER TWO CENTURIES OF ROPE EXPERTISE

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