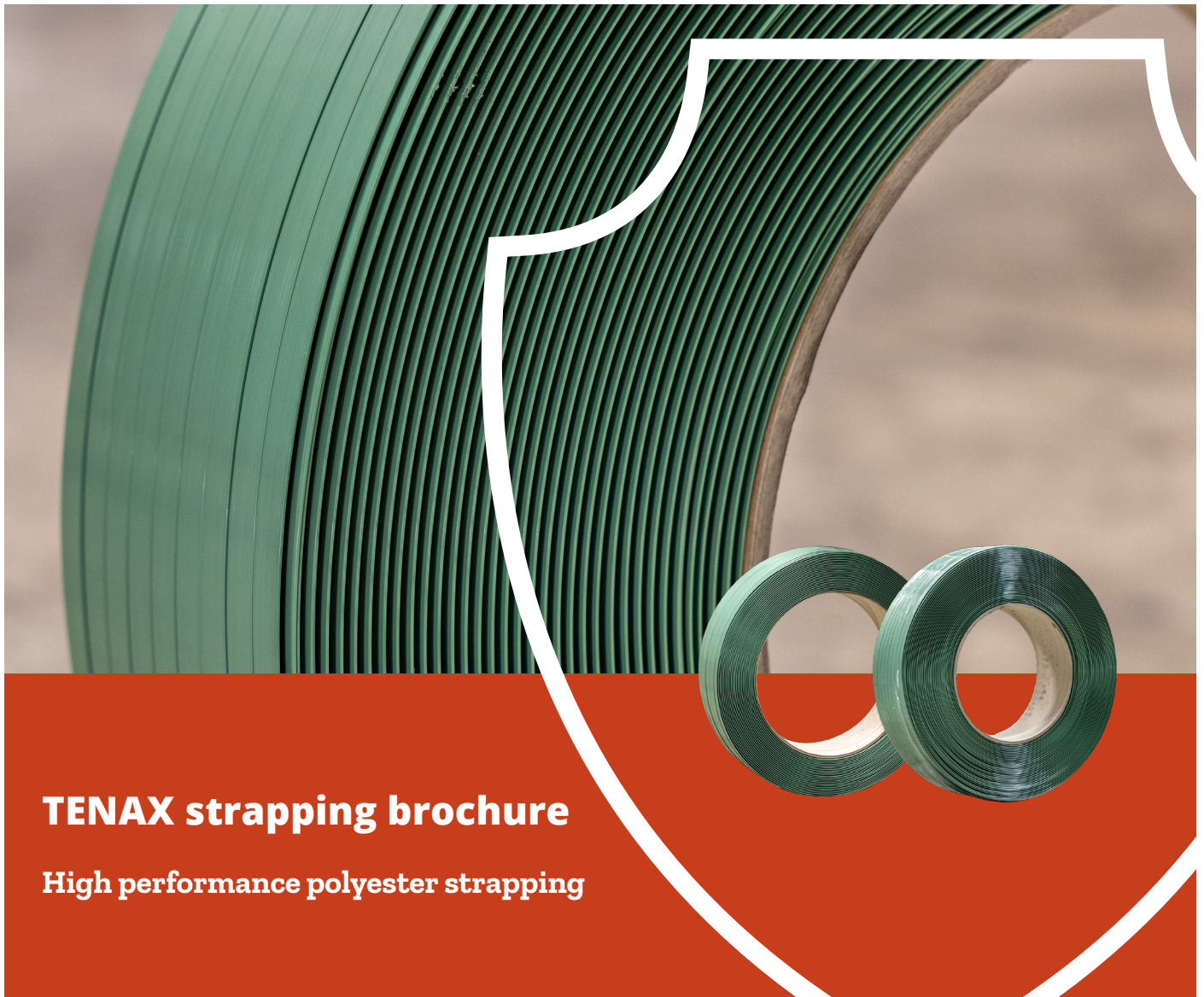


# TENAX<sup>®</sup> strapping

## Embossed & Flat PET strap



### TENAX strapping brochure

High performance polyester strapping

#### Elastic memory

Security of settling or cooling packs is retained as polyester TENAX strapping maintains its grip at all times.

#### Surface protection

TENAX strapping is non-abrasive - no scratching, staining, indentation or surface damage, protects vulnerable materials.

#### Easy handling

Being 80% lighter than steel strap and having no sharp edges, TENAX strapping is easier to handle than steel strap.

#### Dynamic eco-system

Our consumables together with Signode machines and tools creates a dynamic eco-system available for our customers.



# TENAX

## Embossed & Flat PET strapping

### Reasons why our plastic product range of high-strength TENAX polyester strapping are the key choice for consumers:

#### ■ Our TENAX strapping range

TENAX high performance polyester strapping from Signode offers so many benefits for packaging metals, corrugated and cans, construction products, fibre bales, timber and paper, plus many more. Simpler to use than steel alternatives, TENAX strapping makes protection easier and more economical.

#### ■ Plastic Strap Recycling program

Committed to developing ideas for recycling and reusing the products we make, Signode recycling initiatives enable companies to recycle used TENAX polyester strapping to reduce their packaging waste and disposal costs. It's an easy, practical and economical way to fulfil your environmental safeguarding objectives.

#### ■ Excellent service and flexibility

We have a high level of service and a flexible organization. Helping our customers with material development is an important part of our work. It encourages both parties to constantly improve and thereby strengthen positions in the market.

#### ■ The same outstanding quality across our entire range

Signode plastic strapping is manufactured for use with hand tools and high-production power strapping machines. All types have controlled surface properties that minimize tensioning effort, increase tension transmission around corners and improve operating efficiency.



#### Reliable quality for your products

Want your product to arrive in peak condition? TENAX strapping provides unbeatable protection. It's totally non-abrasive so there's no risk of scratching, staining or denting of vulnerable materials. Compared to steel strap, TENAX strapping offers great advantages: polyester absorbs shock far greater than steel strap thus accommodating the load more efficiently.

## Key elements of our embossed and flat strapping:

### Why our complete range has a solution for every customer

#### ■ Fewer coil changes

Each coil holds up to four times more strap than steel strapping, reducing coil changes and increasing productivity.

#### ■ Retained high tension and high resistance to splitting

Secures the pack with no loose straps. TENAX strapping is specially formulated to provide high resistance to strap splitting with no concessions to safety and stability.

#### ■ Higher elasticity than steel

Compared to TENAX strapping, steel has much lower elasticity and allows the straps to loosen in case of shocks. TENAX strapping compensates for this with its higher elasticity and keeps your products secure and safe.

#### ■ Increased edge strength benefits

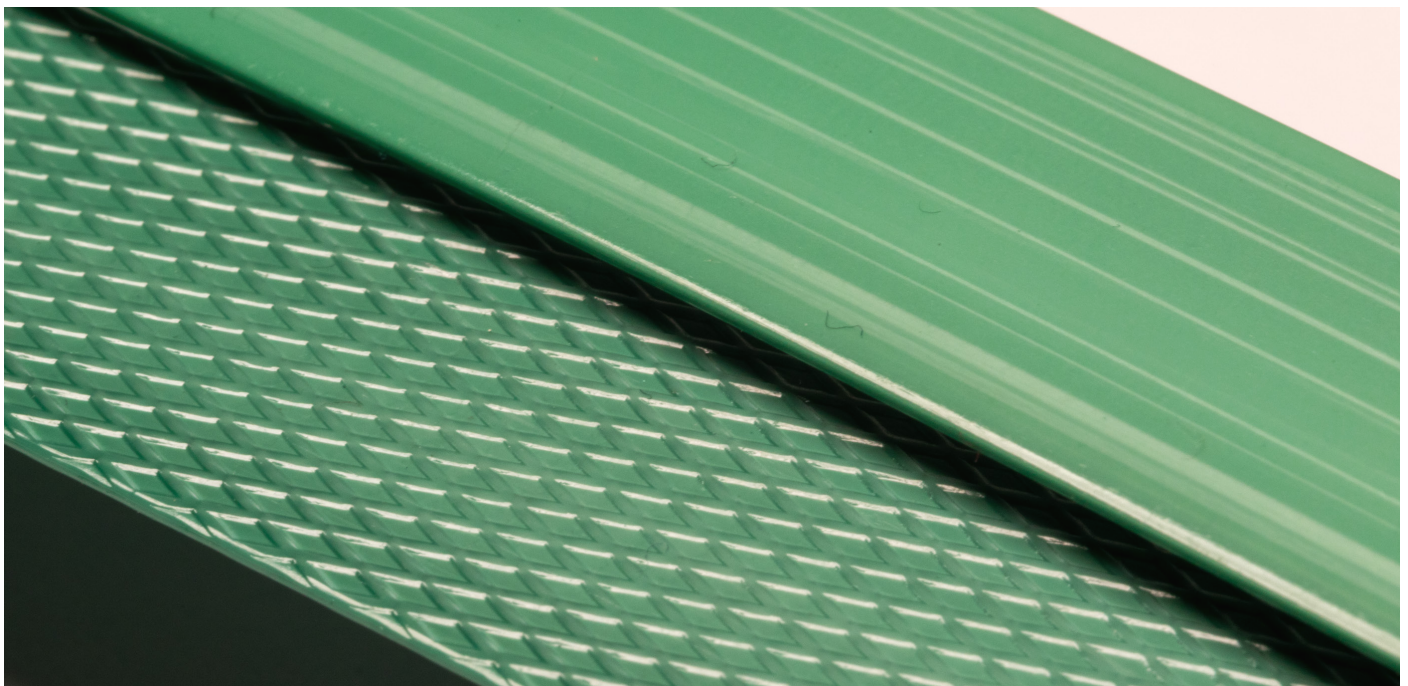
TENAX flat strapping has increased edge strength and a high shock reserve. Ideal for extremely challenging heavy-duty applications.

#### ■ Heavy duty, high strength strapping

Sizes from 16mm x 0.59mm to 32mm x 1.27mm and up to 18,850 Newtons break strength for extra heavy duty applications.

#### ■ Maintains grip around cooling, shrinking or settling

The load stability of your products is considerably affected by long journeys and rough treatment. TENAX strapping has greater resistance to shock forces and unlike steel strap, polyester strap maintains its grip around a cooling, shrinking or settling pack – retaining total product security. This offers more safety and better protection of your load.



### Embossed and Flat strapping

**Embossed strapping** improves grip for better feeding on large arches/chutes machines as well as enhancing friction weld quality for hand powered tools. It reduces the chances of slip when performing a friction welded joint.

**Flat strapping** range has higher break strength compared to embossed and is recommended for heavy loads. Its design is the perfect product for sharp corner loads.

# TENAX Polyester strapping



## Machine strapping heads and tools Compatible tools and strapping heads



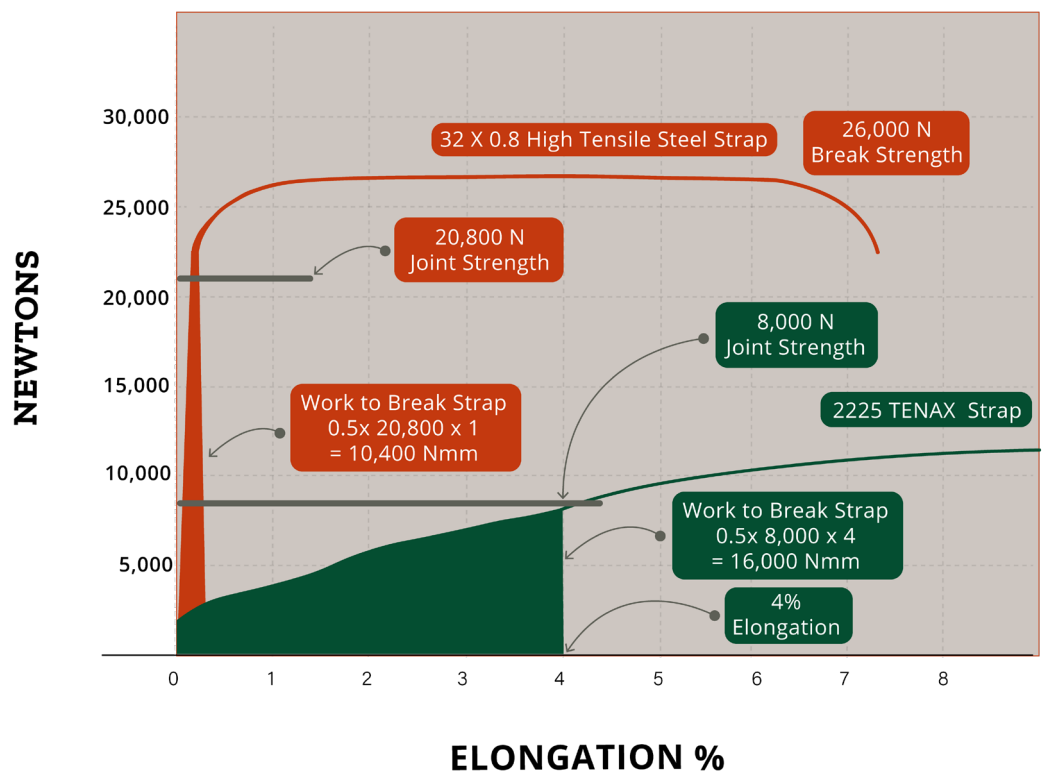
Type	Dimension
1616	8.9 x 0.52
1716	10.5 x 0.52
1718	10.5 x 0.61
1816	11.9 x 0.44
1818	11.9 x 0.52
1822	11.9 x 0.71
2030	15.6 x 0.76
2040	15.6 x 0.89
2080	15.6 x 1.02
2220	18.5 x 0.76
2225	18.5 x 1.27
2480	24.7 x 1.02
2680	31.7 x 1.27
2625	31.7 x 1.27

## Behaviour of TENAX PET strap and steel strap

### Load and elongation curves

In the below graph we compare a 32mm steel strap with TENAX 2225, 19mm. The total TENAX strapping break strength (4 straps) is higher and offers better protection to your products.

### HIGH TENSILE



# Sustainability

## How we are making a difference

### TENAX strapping is recyclable

Made from recycled polyethylene, Signode's polyester strapping can be recycled many times.

Our manufacturing plants recycle used TENAX strapping as well as post consumer and post-industrial PET containers to make new TENAX strapping.



### Produced in Germany, Finland and the Netherlands

Our strapping products are produced locally in Germany, Finland and the Netherlands which not only allows for great quality control but ensures sustainability is improved in many different ways.



### Close proximity to our customers

Being closer to our customers not only increases our products overall sustainability but ensures quality customer service.



### Reduces overall emissions significantly

Emissions are reduced across our TENAX strapping range, we strive to decrease the life-cycle footprint of our products and processes through eco-design and manufacturing innovation.



### Mark of quality

Production of TENAX strapping at our Liljendal, Dinslaken and Heerlen plants ensures a consistent quality our customers have come to expect.



New manufacturing techniques improve the efficiency and lead to less waste. In our research centre we search for new materials in order to maintain quality and improve life-cycle footprint.



**WE'LL ALWAYS  
PROTECT IT.**

# TENAX strapping

## Embossed standard coil



### Product specifications

Colour	Green
Width (mm)	8.9 - 18.7
Thickness (mm)	0.52 - 1.27
Length (meter)	800 - 3700
Kg / Coil	25
Core (mm)	408
Coils per pallet	24 or 48
Packaging	Stretch wrap

### Technical specifications

Tensile strength (N/mm)	420
Break strength (N)	Up to 10,500
Elongation (%)	12

### Dimensions:

Image shows TENAX strapping embossed standard coil  
All dimensions in mm



### Industries:

- TENAX embossed strapping can be used for wood/lumber, panel board, corrugated, paper, baling, construction, logistics and F&B industries.

# TENAX strapping

## Embossed jumbo coil



### Product specifications

Colour	Green
Width (mm)	15.5 - 18.5
Thickness (mm)	0.72 - 1.00
Length (meter)	4800
Kg / Coil	70
Core (mm)	408
Coils per pallet	6
Packaging	Stretch wrap

### Technical specifications

Tensile strength (N/mm)	420
Break strength (N)	Up to 10,500
Elongation (%)	12

### Dimensions:

Image shows TENAX strapping embossed jumbo coil  
All dimensions in mm



### Industries:

- TENAX embossed strapping can be used for wood/lumber, panel board, corrugated, paper, baling, construction, logistics and F&B industries.

# TENAX strapping

## Embossed super jumbo coil



### Product specifications

Colour	Green
Width (mm)	15.5 - 18.5
Thickness (mm)	0.76 - 1.27
Length (meter)	6500
Kg / Coil	115
Core (mm)	408
Coils per pallet	4
Packaging	Stretch wrap

### Technical specifications

Tensile strength (N/mm)	420
Break strength (N)	Up to 10,500
Elongation (%)	12

### Dimensions:

Image shows TENAX embossed strapping super jumbo coil  
All dimensions in mm



### Industries:

- TENAX embossed strapping can be used for wood/lumber, panel board, corrugated, paper, baling, construction, logistics and F&B industries.



# TENAX strapping

## Flat standard coil



### Product specifications

Colour	Green
Width (mm)	8.9 - 32
Thickness (mm)	0.52 - 1.27
Length (meter)	450 - 5000
Kg / Coil	25
Core (mm)	408
Coils per pallet	12 or 24
Packaging	Stretch wrap

### Technical specifications

Tensile strength (N/mm)	450
Break strength (N)	Up to 18,850
Elongation (%)	12 - 20

### Dimensions:

Image shows TENAX flat strapping standard coil  
All dimensions in mm



### Industries:

- TENAX flat strapping can be used for wood/lumber, panel board, metals, bailing, can, construction and general industries.

# TENAX strapping

## Flat jumbo coil



### Product specifications

Colour	Green
Width (mm)	15.6 - 24.7
Thickness (mm)	0.76 - 1.27
Length (meter)	4800
Kg / Coil	70
Core (mm)	408
Coils per pallet	6
Packaging	Stretch wrap

### Technical specifications

Tensile strength (N/mm)	450
Break strength (N)	Up to 18,850
Elongation (%)	12 - 20

### Dimensions:

Image shows TENAX flat strapping jumbo coil  
All dimensions in mm



### Industries:

- TENAX flat strapping can be used for wood/lumber, panel board, metals, bailing, can, construction and general industries.

# TENAX strapping

## Flat super jumbo coil



### Product specifications

Colour	Green
Width (mm)	15.6 - 32
Thickness (mm)	0.89 - 1.27
Length (meter)	6500
Kg / Coil	115
Core (mm)	408
Coils per pallet	4
Packaging	Stretch wrap

### Technical specifications

Tensile strength (N/mm)	450
Break strength (N)	Up to 18,850
Elongation (%)	12 - 20

### Dimensions:

Image shows TENAX flat strapping super jumbo coil  
All dimensions in mm



### Industries:

- TENAX flat strapping can be used for wood/lumber, panel board, metals, bailing, can, construction and general industries.