

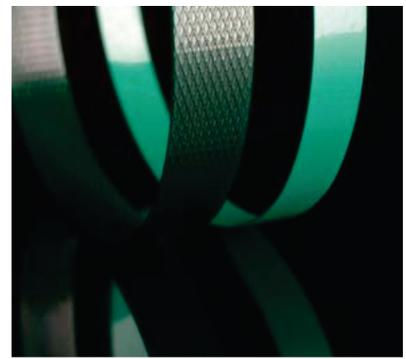


BANDMA
STRAPPING - POLYESTER (PET)

Ingenuity at Work

RELIABLE
EXPERIENCED
INNOVATIVE

B | **BANDSTRAP**
STRAPPING SOLUTIONS



POLYESTER STRAPPING

Bandstrap® PET

Wherever highest standards are called for, customers rely on BANDMA strapping. Storage and transport impact your goods in various ways. Influences such as rocking motion, temperature differences, and exposure to sunlight may entail adverse effects on packaging integrity. To counteract these interfering factors, BANDMA has developed BANDMA® PET, a comprehensive range of polyester strapping products.

EXPERIENCE

More than 25 years of experience in the solution-oriented development and production of plastic strapping products gives you the decisive advantage: the superior quality of BANDMA® strapping keeps your machine up and running, reliable and safe, at all times

Being the biggest system-independent manufacturer and operating a global network, we have the ideal strapping solution for your particular need and line of business.

TECHNICAL SUPPORT

We provide full support to help you solve complex situation and technical issues in your market. Strapping products and their use are what we specialise in. We are always there for you: whether to provide support in the implementation of projects, or to prepare

Solutions for machine-related problems. Our salesteam, product managers, and application engineers are competent and solution oriented.

PARTNERSHIP

Through our globally active Sales Team, we offer you a service that contributes essentially toward your success. Together, we identify and tap potentials in the market, seize opportunities, an exchange information. Your personal account manager provides

Support for key account projects and together with you, identifies options and objectives. Naturally, for all fields of application and industries, and in a partner-like, clear-cut and target-oriented manner.

YOUR BENEFIT

- BANDMA® PET is superior to steel strapping
- No damage to packaged goods
- Innovative 1-2 strap packaging: fast and safe opening - helps save time and money
- Solutions custom - tailored to your application
- BANDMA® PET : for all machines and applicatoins
- Highly specialised
- High-quality strapping for use on automatic strapping machines
- Experties for users
- Training courses for partners



POLYESTER STRAPPING

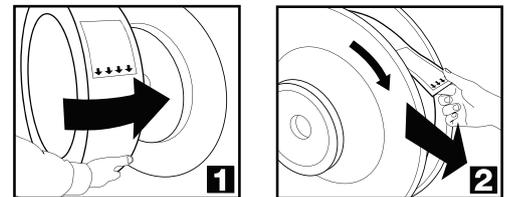
Bandstrap® PET



Customers around the globe rely on BANDMA strapping when meeting the highest packaging standards is what it takes.

YOUR ADVANTAGE

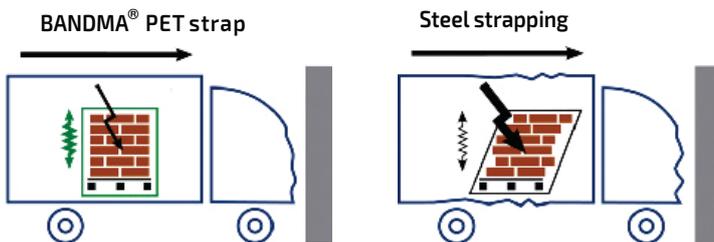
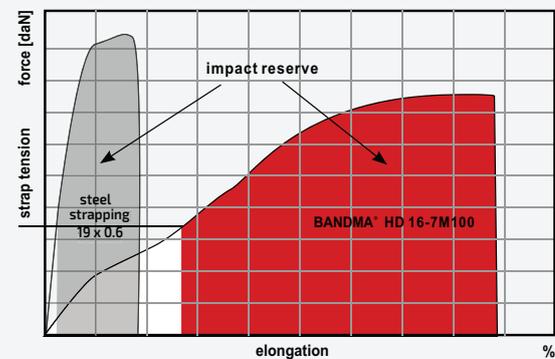
- Coil changes faster, thanks to direction indicator
 - Coils remain compact during the entire assembly process
 - Less packaging waste
1. Mounting the coil
 2. Removing the protective packaging and inserting the end of the strapping in a single step



YOUR BENEFIT: BANDMA® vs. STEEL STRAPPING

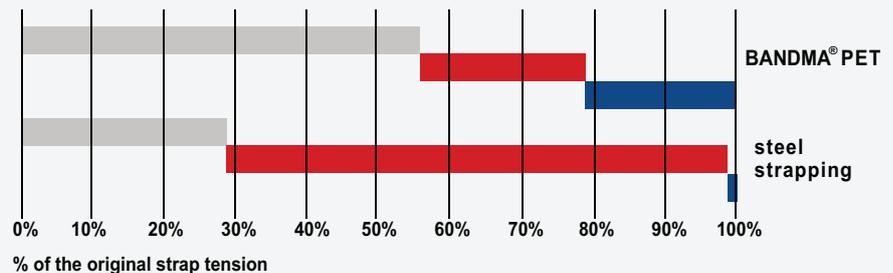
- Safety** : greater remaining holding force and higher impact reserve
- Weight** : halved coil weight and more metres per coil
- Environment** : BANDMA® is 100% recyclable
- Health** : minimal risk of injury when opening packaged goods - no tools are necessary
- Quality** : Colour does not come off on the packaged goods

IMPACT RESERVE



RETAINED HOLDING FORCE

- remaining holding force
- tension loss due to loss in volume
- tension loss due to relaxation



Using BANDMA® PET strapping gives you double the previously achieved remaining holding force! Strap tension over time – Directly after the strap is applied: 100% strap tension; 1-3 hrs after the application: decrease in strap tension due to relaxation; After storage and transport: reduction in volume by shrinkage of the packaged goods or other packaging means (due to moisture, weight), by the straps cutting into the packaged items, or by the packaged items being bumped and bounced together

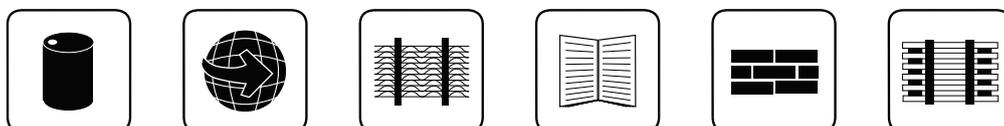


TYPE RANGE

Bandstrap® PET



	Product	Name	Description
Standard	BANDMA® ZEST	Semi Automatic	High quality strap for semi automatic machines and standard applications
	BANDMA® T	Tension	High quality automatic strapping with high edge strength
Advanced	BANDMA® HT	High Tension	High quality automatic strapping for applications requiring high tension and with increased risk of shock splitting
	BANDMA® HD	Heavy Duty	High quality automatic strapping for heavy duty applications with highest demands on tension, breaking strength and welding ability
Industry specific	BANDMA® C	Can	High quality automatic strapping for the specific requirements of best relaxation in the can industry
	BANDMA® XB	Expanding Bales	High quality automatic strapping for the specific requirements of best welding ability, combined with low elongation in the bailing industry
Special	BANDMA® ITA		High quality PET strapping for machines of company ITATOOLS®
	BANDMA® SP		High quality PET strapping for bundeling applications; Cost effective alternative for PP applications where high tension and availability is required





MORE FEATURES

Bandstrap[®] PET

Features:

- We use premium raw materials and additives.
- Alternative colors and surface types (smooth or embossed treatment).
- The most effective substitute of the high cost steel strap.
- Very high tensile strength (similar to the strength of steel Strap upto 80%).

Advantages:

- Lower cost and environment friendly as well.
- Suitability for medium to heavy application.
- Rust free and safe working.
- High heat-resistance and lower elongation rate.

Why PET Strap is a Strong Alternative of Steel Strapping?

Polyester (PET) strapping is replacing Steel strapping for the following reasons :

- **Economy** : 50% Cost saving compare to Steel Strapping because the weight of 6 metres of PET Strap Rolls is equal to 1 meter of steel strap of same size and easy handling.
- **Corrosion Free** : PET Strap Roll is rust free and chemically inert. It does not leave any stain on the pack.
- **Safety** : PET Strap Rolls does not have sharp edges like Steel, It will not cut or damage product. PET Strap Rolls create a safe work environment for user because it does not spring back when removed, So there is no risk of injuries while tensioning or cutting the strap.
- **Impact Resistance** : The impact resistance of PET Strap Rolls is five times greater than steel strap. PET Strap Rolls has higher shock absorbing capacity than steel strap, so it is suitable for compressed rigid packs require strapping tension throughout handling and storage.
- **Elongation Recovery** : PET Strap Rolls has slight elasticity and it tries to return to its original position under tension. PET Strap Rolls has good elongation recovery, while steel strap has no elongation recovery. PET Strap Rolls maintains strap tension by contracting with the pack in the event of pack settlement.

Why PET Strap is a Better Choice over Other Plastics?

In many Packaging applications, PET Strap Rolls is the only choice because of the following reasons:

- **High Tensile Strength** : PET Strap Rolls is having more tensile strength than polypropylene strap. It maintains tensile strength for a long stretch of time with excellent shock resistance. PET Strap Rolls also provides greater load stability & superior retained tension.
- **Low Elongation** : PET Strap Rolls has less elongation than PP strap which means that the strap tension will not relax during pack expansion, contraction & pack settlement. Packs can therefore be moved safely even after extended period of storage or transport.
- **Better Weather Resistance** : PET Strap Roll is virtually unaffected by Weather and harsh environment. Compared to nylon strap, PET Strap Roll has better resistant to ultra-violet rays and holds tension even in very humid conditions. PET Strap Roll has good heat resistant, It can withstand upto -30° Celsius to $+80^{\circ}$ Celsius temperature.



SPECIFICATIONS OF PLAIN/SMOOTH PET STRAP

Bandstrap® PET



Width	Thickness	Weight per meter	Runnage meter per kg.	Minimum breaking strength		Elongation at break	Length per 25.00 kg
				N	KGF		
mm	mm	gram	meter			%	meter
10.5	0.5	7.04	142.15	2163	221	10 to 16	3554
11	0.5	7.37	135.69	2266	231	10 to 16	3392
12	0.5	8.04	124.38	2472	252	10 to 16	3109
12.5	0.5	8.38	119.4	2575	263	10 to 16	2985
12	0.6	9.65	103.65	2967	302	10 to 16	2591
13	0.6	10.45	95.68	3214	328	10 to 16	2392
12	0.7	11.26	88.84	3461	353	10 to 16	2221
12.5	0.7	11.73	85.29	3605	368	10 to 16	2132
15	0.7	14.07	71.07	4429	452	10 to 16	1777
15.5	0.76	15.79	63.35	4969	507	10 to 16	1584
15.5	0.9	18.69	53.5	5885	600	10 to 16	1337
16	0.9	19.3	51.82	6074	619	10 to 16	1296
15.5	1	20.77	48.15	6538	667	10 to 16	1204
16	1	21.44	46.64	6749	688	10 to 16	1166
19	1	25.46	39.28	8015	817	10 to 16	982
19.05	1.27	32.42	30.85	10206	1040	10 to 16	771

Note:

- Ideal (Safe) working range : 40% to 45% of Breaking strength
- Test method according to Indian standard IS:15559 : 2004 and ASTM : D:3950 - 04
- Above PET strap sizes are regular sizes for production, they are also available as per the customer's specification.



SPECIFICATION OF EMBOSSED PET STRAP

Bandstrap® PET



Width	Thickness	Weight per meter	Runnage meter per kg.	Minimum breaking strength		Elongation at break	Length per 25.00 kg
				N	KGF		
mm	mm	gram	meter			%	meter
10.5	0.5	6.68	149.63	2055	209	10 to 16	3741
11	0.5	7	142.83	2153	219	10 to 16	3571
12	0.5	7.64	130.92	2349	239	10 to 16	3273
12.5	0.5	7.96	125.69	2446	249	10 to 16	3142
12	0.6	9.17	109.1	2818	287	10 to 16	2728
13	0.6	9.93	100.71	3053	311	10 to 16	2518
12	0.7	10.69	93.52	3288	335	10 to 16	2338
12.5	0.7	11.14	89.78	3425	349	10 to 16	2244
15	0.7	13.37	74.81	4208	429	10 to 16	1870
15.5	0.76	15	66.68	4721	481	10 to 16	1667
15.5	0.9	17.76	56.31	5590	570	10 to 16	1408
16	0.9	18.33	54.55	5771	588	10 to 16	1364
15.5	1	19.73	50.68	6211	633	10 to 16	1267
16	1	20.37	49.1	6412	654	10 to 16	1227
19	1	24.19	41.34	7614	776	10 to 16	1034
19.05	1.27	30.8	32.47	9695	988	10 to 16	812

Note:

- Ideal (Safe) working range : 40% to 45% of Breaking strength
- Test method according to Indian standard IS:15559 : 2004 and ASTM : D:3950 - 04
- Above PET strap sizes are regular sizes for production, they are also available as per the customer's specification.



COMPARISON OF PROPERTIES

Bandstrap® PET



Material	Break Strength	Working Range	Elongation Recovery	Retained Tension	Heat Resistance	Humidity Resistance
PP	Moderate	Lowest	Marginal	Fair	Fair	High
Steel	Highest	Highest	Negligible	Highest	Excellent	Poor
PET Strap	Good	Good	Good	Good	Good	Excellent



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