

# Paper & Print

Machine tapes  
for the paper industry  
and letter sorting

**siegling**  
belting



Siegling – total belting solutions

**forbo**

MOVEMENT SYSTEMS

## Machine tapes for the paper industry and letter sorting



The amount of paper types used nowadays seems endless: from packaging paper, cardboard, tissue, writing and printer paper to paper types for newspaper printing, offset, SC, LWC, ULWC, HWC and art paper as well as siliconised paper, NCR and thermosensitive paper types.

It is this variety, both in paper processing and letter sorting, this variety places high demands on the belts used, both in paper production and letter sorting. For this reason we have been a development partner and supplier to original equipment manufacturers and users for decades. This expertise has produced our comprehensive range of Siegling Extremultus machine tapes for all applications and the processing of each type of paper in these sectors.



Siegling Linpack folder and carrier belts (with natural rubber Linatex coated power transmission belts) are used in the paper industry and letter sorting and elsewhere as pick-off belts.

Siegling Linpack power transmission belts are highly specialised products, which is why they are shown separately in another of our brochures (ref. no. 244).

Further Forbo Siegling products relevant to the paper industry can be found in the following brochures:

No.	Title
224	Siegling Transilon conveyor and processing belts
225	Siegling Extremultus flat belts – Power transmission belts
244	Siegling Linpack folder and carrier belts
271	Paper & Print – Machine tapes for the printing industry
279	Siegling Belting tools
284	Paper & Print – Folder and carrier belts

Siegling Extremultus machine tapes excel because of their friction coefficients adapted to particular functions, top coatings kind to paper, good release and grip characteristics and long service lives.

The types in the Siegling Extremultus E+A series are the outcome of our research and development work. Their aramide or polyester tension member means they have little elongation at fitting, high flexibility and are not sensitive to fluctuations in ambient conditions.

The splicing method (Z-splice) for these types does not require any additional materials and has the necessary flexibility and durability required for small corner radii. Easy to handle Z-punch presses and heating clamps make simple fitting directly on the machine possible, reducing the down times.

Thanks to these advantages maximum quality and productivity potential from paper processing and letter sorting machinery can be achieved even more easily.

## The properties

largely unaffected by fluctuations in ambient conditions

simple and precise Z-splice, homogeneous welding

high elastic modulus

low elongation at fitting

very flexible

constant drag with high wear-resistance

## The advantages

maintenance free, no re-tensioning, very reliable

shorter fitting times, no adhesive

shorter take-up ranges

low shaft load

small drum diameters  
low power consumption

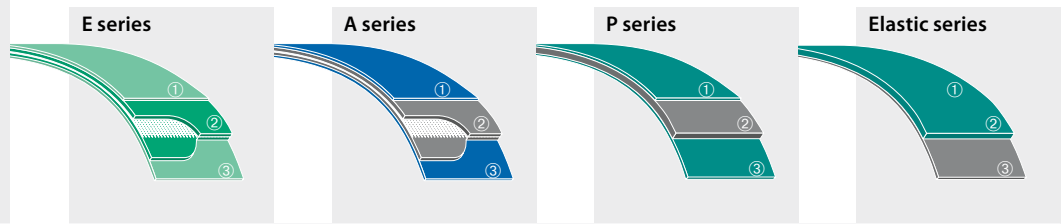
reliable function,  
low operating costs

All types are easy to clean and largely resistant to oils, greases and many solvents.



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# Comparison of the series



① Top face  
③ Friction coating

optimal surface coatings for different applications

- Modified G elastomer coating with high drag and abrasion resistance, conveying gently without leaving marks.
- Nonwoven polyester material with much improved wear resistance and with good service life: Changing products conveyed entirely possible without exchanging belt.
- Fabric surfaces for multi-purpose usage with good release characteristics and long service lives.
- Highly abrasion resistant polyurethane.

② Tension member

Thermoplastic, with polyester fabric in warp and weft

Thermoplastic, with highly modular mixed fabric (aramide warp)

Highly-orientated polyamide belt

Highly elastic polyurethane belt

Load transmission

Transmission of high effective pull at low elongation  $\leq 35$  N/mm

Transmission of high effective pull at low elongation  $\leq 40$  N/mm

Transmission of highest effective pull  $\leq 100$  N/mm

Transmission of low effective pull at high elongation

Elongation at fitting

0.3 % – 2.0 %

0.3 % – 0.8 %

0.6 % – 3.0 %

3 % – 8 %

Flexibility

High flexibility

High flexibility

Lower flexibility

Very high flexibility

Damping characteristics

Good

Low

Very good

Very good

Elongation at break

Top resistance

Sufficient resistance

Very high resistance

Very high resistance

Splice type

Z-splice without bonding agent

Z-splice without bonding agent

Wedge overlap splice with bonding agent

Butt splice or Z-splice without bonding agent

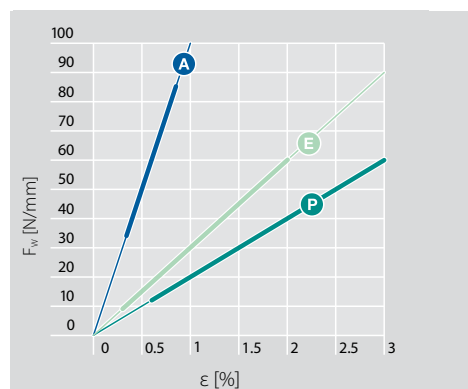
Special characteristics

Very good price-performance ratio, optimal solution in nearly all applications, strong edges, laterally stiff

Careful handling a must for smooth operation, strong edges, laterally stiff

Particularly strong edges, laterally stiff

Particularly suitable when subjected to extreme counter bending at small drum diameters



A clear advantage of the series is the low elongation at fitting.

**With its new machine tape range Forbo Siegling provides solutions for the special requirements of the various manufacturing processes and all sorts of further processing and conveying.**



## Cross cutters

The most varied types of paper and cardboard have to be precisely conveyed in the cross cutter at very high speeds without leaving any marks through each production stage.

Apart from the machine tapes for the P series the E series types are perfect for this type of demanding usage.

Even at fluctuations in ambient conditions and after long operational periods no re-tensioning is required, they are suitable for small roller diameters, laterally stiff and have strong edges. Their relatively low elongation at fitting means that the shaft load is minimised.

Long service life and quick Z-splicing without additional materials minimise fitting and the resulting down times.

## Letter sorting machinery

In letter sorters, abrasive types of paper and letters with fragile contents are commonplace.

Flexible machine tapes can deal with these sorts of applications very easily.

The elastic types in the Elastic series are used mainly for very small deflections without take-up systems.

In other applications the E series types get to grips with conveying materials smoothly even under extreme conditions. Both series have long service lives.

The quick Z-splice without additional substances and excellent lead times guarantee low fitting times. Down times are reduced to a minimum.

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## Extract from the product range

### Supplied as

- Roll material for individual fabrication.
- Endless power transmission and conveyor belts<sup>3)</sup>
- Prepared power transmission and conveyor belts for heated splicing on site<sup>3)</sup>
- Special designs with perforations on request.

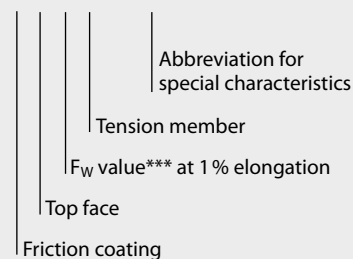
### Chemical resistance

Siegling Extremultus has a permanently antistatic finish, is almost maintenance free and chemically resistant to: Wet conditions, moisture, spirits, household cleaners and solvents normally used in the paper and printing industry; resistant to some extent to alcohols. Permanent contact with acetone, solvents, chlorinated hydrocarbons and concentrated acids should be avoided.

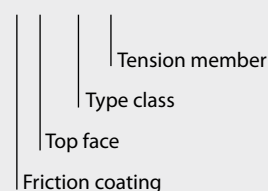
Further information about chemical resistance available on request.

#### Key to the Siegling Extremultus machine tape types

**GG 8 E**  
**TT 6 P**  
**NN 4P - HC+**



**GG 40 U**  
**UU 20 U**



Technical data	Type designation	Article no.	Total thickness [mm]*	d <sub>min</sub> approx. [mm]**	F <sub>w</sub> -value approx. [N/mm] width***	Weight approx. [kg/m <sup>2</sup> ]
<b>E series (Machine tapes with polyester tension member)</b>						
	GG 5E grey	822115	1.4	14 (10)	5	1.4
	GG 8E green	822062	1.5	14	8	1.6
	TG 6E grey	822109	1.0	14	6	1.15
	TG 10E black/green	822081	1.3	20	10	1.4
	TR 10E black/grey	822120	1.45	20	10	1.4
	TT 6E black/grey	822103	1.0	14	6	1.0
	TT 10E-HC black	822096	1.0	24	10	1.0
	UN 6E green/grey <sup>1)</sup>	822091	1.9	24	6	1.9
	UP 6E GSTR/GL black/transp.	822134	1.2	30 (24)	5	1.3
	UR 8E-HC+ FSTR/FSTR green/grey	822132	1.5	24	8	1.6
	UU 8E green	995451	1.5	14	8	1.7
	PU 8E green	995453	1.4	24	8	1.5
<b>E series (Power transmission belts with polyester tension member)</b>						
	GG 15E-18 green	822053	1.8	20	15	2.0
	GG 20E-20 green	822052	2.0	24	20	2.3
	GG 20E-30 green	855538	3.0	40	20	3.4
	GG 20E-30 grey FDA	822142	3.0	30	20	3.4
	GG 30E-32 FSTR/FSTR black	822118	3.0	40	30	3.55
	TG 30E-30 black/green	822058	3.0	40	30	3.2
	UU 20E-16 FSTR/FSTR green	822055	1.6	30	20	1.85
	UU 30E-20 FSTR/FSTR green	822133	2.0	30	28	2.2
<b>A series (Power transmission belts with aramide tension member)</b>						
	UU 15A-17 FSTR/FSTR green	995473	1.7	30	60	1.9
<b>P series (Machine tapes with polyamide tension member)</b>						
	GG 2P grey	850030	1.2	14	2	1.3
	GG 3P grey	850035	1.4	24	3	1.45
	GG 4P grey	850040	1.4	14	4	1.6
	GG 6P grey	850007	1.5	30	6	1.7
	NN 4P-HC+ grey	855635	1.6	20	4	1.3
	TG 2P green/grey	850029	0.8	14	2	0.8
	TG 4P green/grey	850039	1.0	24	4	1.1
	G 5/0 X/P green	855582	1.25	24	6	1.15
	TT 2P green	850028	0.6	20	2	0.5
	TT/S 3P/green	850032	0.7	14	3	0.5
	TT 4P-HC black	855619	0.8	20	4	0.75
	TT 6P-HC black	855597	1.0	24	6	1.05
	TT 6P black/green	850210	0.8	24	6	0.7
	TT/S 6P/green	850042	1.15	30	6	0.9
	TU 6P black/green	850209	1.1	24	6	1.05
<b>Elastic series (Machine tapes with polyurethane tension member)</b>						
	GG 40U green	855552	1.4	20	0.8	1.6
	PN 75P green/grey <sup>1)</sup>	855503	1.5	14	1.5	1.3
	UG 50U black/green	855599	1.6	20	1.0	1.7
	UU 15U black/green	850221	0.8	14	0.3	0.8
	UU 20U black/green	850207	1.1	10	0.4	1.2
	UU 20U-HC+ FSTR/FSTR black	855631	1.1	20	0.4	1.2
	UU 40U black/green	850208	1.1	14	0.8	1.2
	UR 40U-HC+ GSTR/NSTR black/grey	855636	1.45	14	0.8	1.45
	UU 40U GSTR/GL black/green	995207	1.0	14	0.8	1.05
	UU 60U black/green	850289	1.5	14	1.2	1.6

### Key

\* Tolerance ± 0.1 mm

\*\* The minimum admissible roller (pulley) diameters have been established at standard climatic conditions. Lower temperatures or particularly low humidity require larger diameters.

\*\*\* The F<sub>w</sub> value indicates the shaft load at 1% elongation in N/mm belt width. It represents a parameter, which in contrast to the ultimate tensile strength, gives a direct indication of the tensile force in the belt.

<sup>1)</sup> The nonwoven coating (N) usually faces towards the product.

<sup>2)</sup> Only as a power transmission belt.

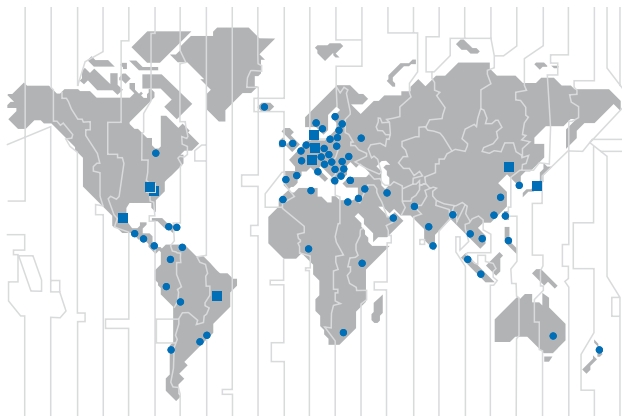
<sup>3)</sup> Please state the required power transmission belt length, width, type of splice and if necessary the amount of pre-tensioning required. For power transmission belt lengths <500 mm and lengths <125 m please ask whether feasible.



## Siegling – total belting solutions

Committed staff, quality-orientated organisation and production processes ensure the constantly high standards of our products and services. The Forbo Siegling Quality Management System is certified in accordance with ISO 9001.

In addition to product quality, environmental protection is an important corporate goal. Early on we also introduced an environmental management system, certified in accordance with ISO 14001.



### Forbo Siegling service – anytime, anywhere

The Forbo Siegling Group employs more than 2,000 people. Our products are manufactured in nine production facilities across the world. You can find companies and agencies with warehouses and workshops in over 80 countries. Forbo Siegling service points are located in more than 300 places worldwide.