

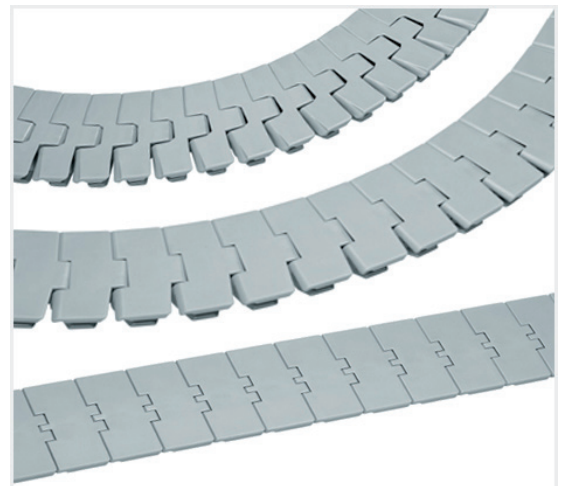
Challenge: Higher Chain Conveyor Speeds

Response: Extra Low Friction Self-Lubricating **TS** Material for Conveyor Chains

Modern chain applications in the beverage and container industries (PET, aluminum and glass) need to deal with constantly increasing speeds in dry running applications. In recent years, line speeds have almost doubled, and there seems to be no end in sight.

Standard materials are unable to withstand such demands which lead to:

- High friction and high wear
- High noise generation
- High energy consumption
- High frequency of conveyor chain exchange



The solution: HabaCHAIN® TS Material (extra low friction)

TS material offers a multitude of features, the most important of which is self lubrication throughout the entire service life.



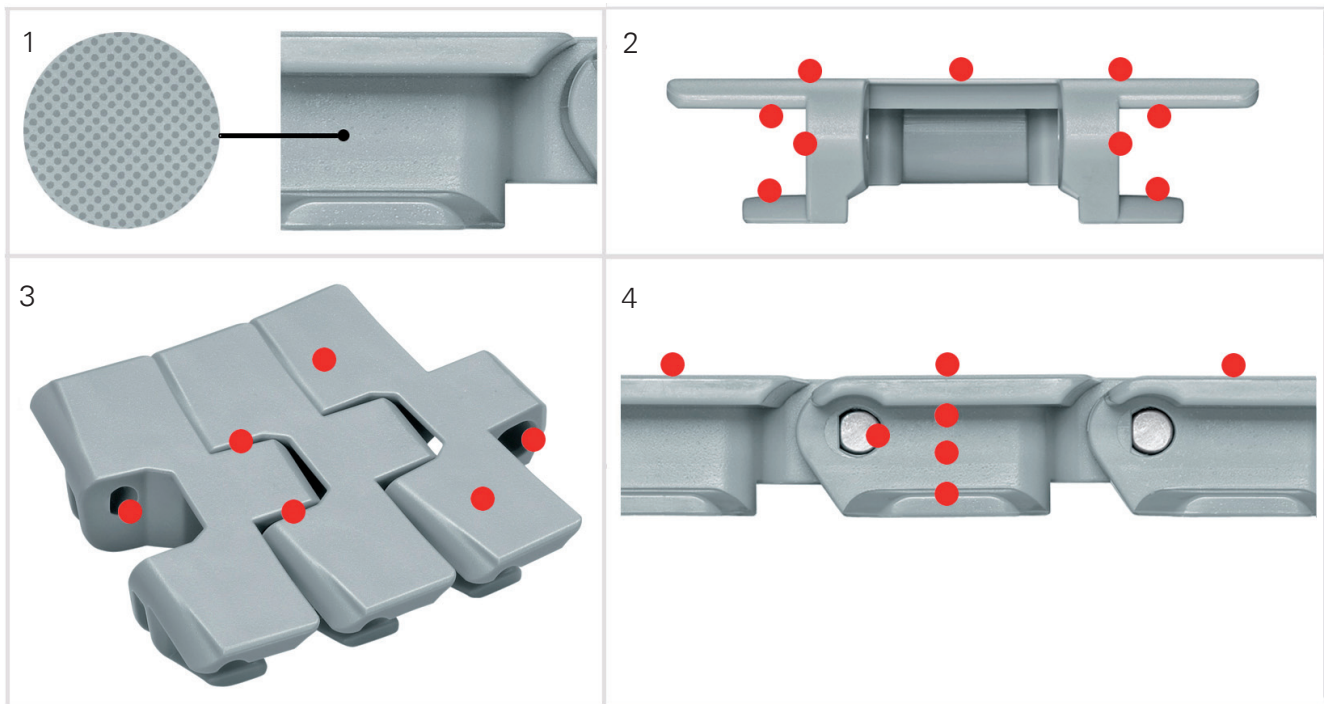
HabaCHAIN® TS material

Features and benefits

How does extra low friction **TS** material work?

The molecular structure of the plastic incorporates self-lubricating additives in a regular pattern throughout the entire single chain link.

Illustrations (● = friction points)



1 Cross-section showing lubricating additive distribution throughout the entire **TS** plastic material

2 Front view of a single chain link showing the most important friction points

3 Chain link overhead view of the most important friction points

4 Side view of the same chain links showing the most important friction points

General properties of the TS material

Operating temperature range

Dry conditions	-40 °C to +90 °C -40 °F to +194 °F
Wet conditions	-40 °C to +60 °C -40 °F to +140 °F

Thermal expansion

Coefficient of linear thermal expansion α	
mm/m · °C	in/ft · °F
0.09	0.00060

HabaCHAIN® TS material

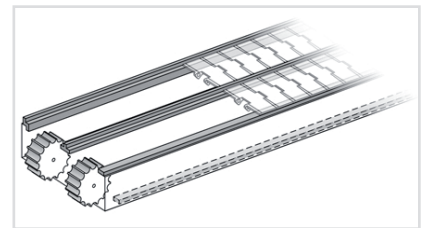
Coefficient of friction

	Between chain and wear strip			Between chain and product			
	Stainless steel	PE-UHMW	Lubricated cast nylon	Returnable glass	Aluminum	Plastic (PET)	Cardboard
Dry	0.22	0.19	0.18	0.16	0.16	0.12	0.25
Water	0.17	0.16	NR	0.15	0.15	0.11	NR
Lubricant	0.12	0.10	0.10	0.12	0.11	0.10	NR

Key: NR = not recommended, PE-UHMW = Polyethylene ultra high molecular weight

Wear strip recommendation

During high-speed applications > 60 m/min / 200 ft/min, PE-UHMW wear strip material reaches its limit. We recommend cast nylon with incorporated lubricants, e.g. HabiPLAST® Habilon PA6/C-GREY L/S.



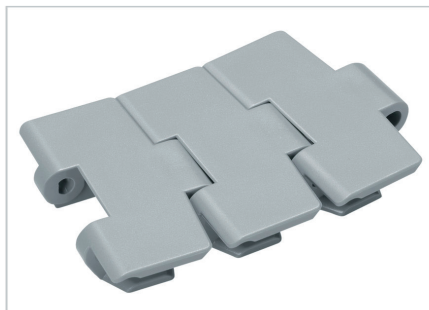
Benefits of HabaCHAIN® TS extra low friction material

- Ideal for high-speed dry running applications thanks to self lubrication over the entire service life
- Low wear rate – lasts much longer than standard POM (acetal) materials
- Reduced noise levels due to self lubrication
- Reduced energy consumption due to self lubrication
- Quiet running – less pulsation / vibration
- Reduced chain lengthening
- High strength and excellent fatigue resistance
- Ideal as a replacement for noisy steel chains

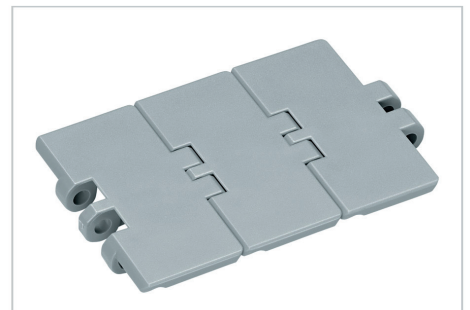
The TS range



C0770K0325TSTA



C0880K0325TSTA



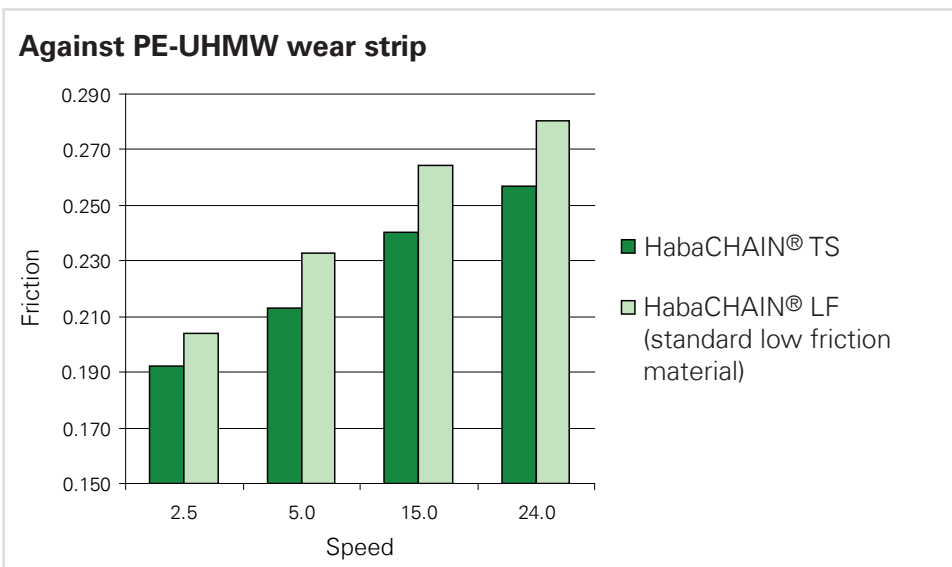
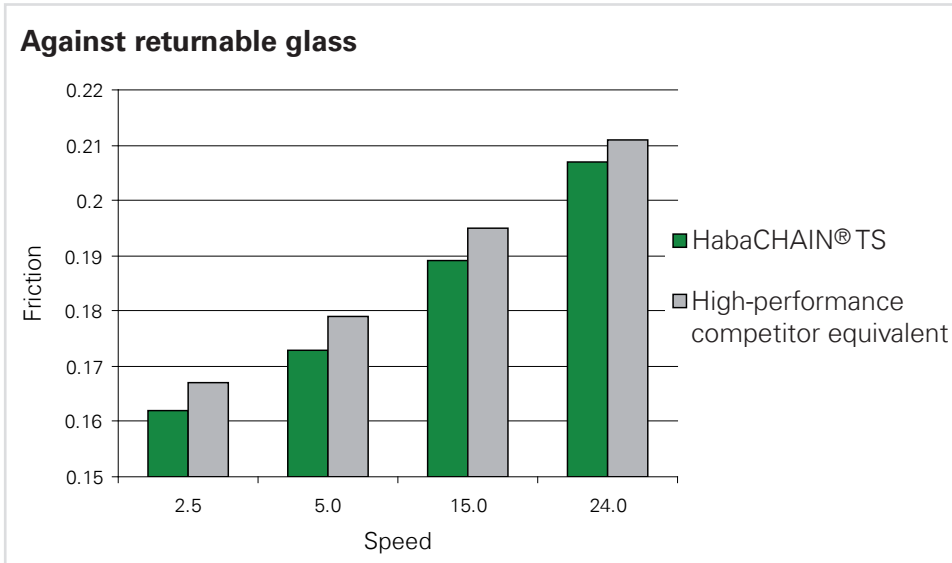
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HabaCHAIN® TS material

Proven results

The tables show long-term friction measurements comparing HabaCHAIN® TS with competitor equivalent materials and Habasit's own standard low friction material.



Ideal for high-speed applications

The long-term measurement results prove that HabaCHAIN® TS material is ideal for high-speed running applications since it is self-lubricating over the entire service life.

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