

ACETAL COPOLYMER

**KEPITAL<sup>®</sup>**



**KEPITAL**  
Materials/mating materials for  
tribological applications

## Friction-modified POM: Improved energy efficiency

Improving energy efficiency (e.g. to reduce the power needed to drive conveyor systems) by focussing on reduced coefficients of friction in tribological systems is of ever-increasing importance to adding value to technical products.

Friction-modified KEPITAL is an efficient means of preventing early component failure caused by high coefficients of friction and/or wear. Its properties such as low coefficients of friction, reduced stick-slip effects and outstanding wear resistance make the KEPITAL friction modified polyacetal portfolio one of the innovative and powerful quality leaders among the grades of friction-modified polyacetals.

	Interacting materials		
	POM / POM	POM / Steel	POM / Plastics
Low wear	TS-22H TS-25H FL2020	NX-20 TX-21, TX-31	TS-22H TS-25H
Low friction	TS-25H NX-20 TX-21, TX-31	FL2020 NX-20 TX-21, TX-31 FM2520S	TS-25H
Low noise	NX-20 TX-21, TX-31	NX-20 TX-21, TX-31	

## Portfolio: High performance over a wide range.

KEP's experience in the development of specifically friction-modified POM copolymer grades is a matter of many years. Where its well-balanced mix of mechanical and tribological properties turns the unmodified standard grade into a prime choice already, the multifaceted KEPITAL Tribo product portfolio may be considered a real milestone because materials specifically chosen to interact with the friction-modified KEPITAL now contribute to providing optimized system solutions.

Additiv		KEPITAL grades
Standard additive	PTFE	FL2020
	Silicone	TS-22H TS-25H TS-25A
	Chalk	CX-20
	Molybdenum disulfide	FM2020 FM2520S
	Concentrated	SC-22
Special additive		TX-11H TX-21 TX-31 NX-20

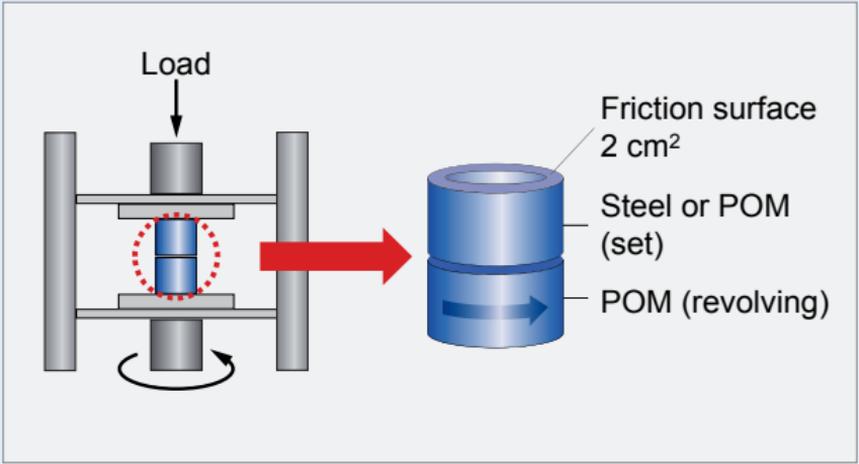
Friction-modified KEPITAL products are the right choice for applications comprising technical components in relative motion. Conventional areas of application include conveyor chains or gear wheels which are the basis of KEPITAL's long-lasting marketing success. KEPITAL NX-20 is KEP's new and next generation multi-functional dynamic friction grade. It is characterized by low noise (squeaking) and excellent mechanical properties. In terms of friction, this grade interacts well with plastics or metals.

## Model trial: Rotary tribometer (Siebel/Kehl)

The coefficient of sliding friction is not a material characteristic but a factor dependent on the tribological system and its many different parameters. KEP deploys a rotary tribometer (Siebel/Kehl) to produce valid and repeatable measuring results.

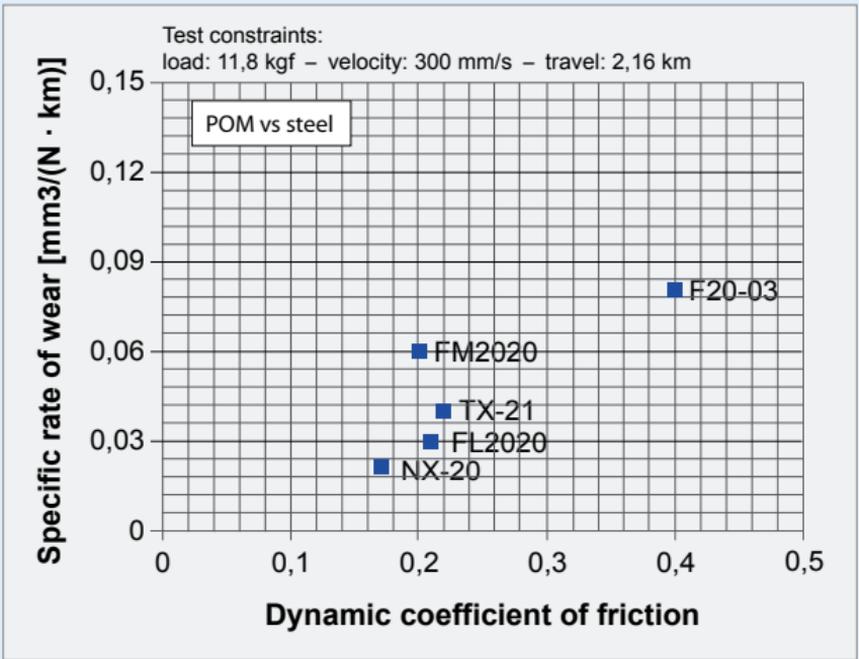
In the test setup illustrated below, two cylindrical test specimens are exposed to a defined axial force applied through a spindle. The sliding surface area is approx. 2 cm<sup>2</sup> with the top specimen being set and the bottom specimen performing a linear motion (rotation).

This test array is particularly well suited to identifying the coefficient of friction  $\mu$  of any material combination.



### Outstanding tribological properties of KEPITAL

Additives such as chalk, PTFE or silicone oil homogenously embedded and evenly dispersed throughout KEPITAL's polymer matrix (incorporated lubrication) ensure dry running and help to improve the tribological properties of the overall system by reducing friction and wear. The chart below may illustrate the positive effect.



## Examples of typical applications



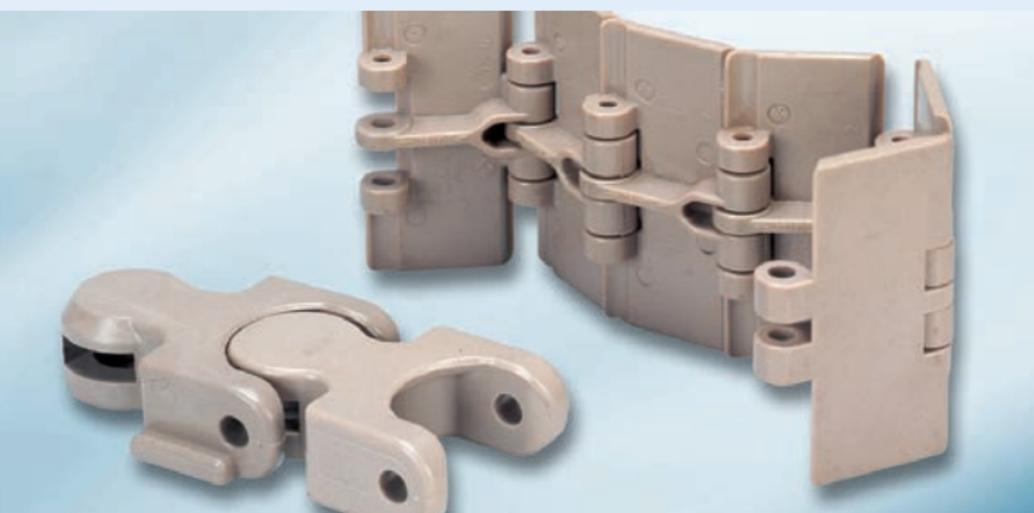
### Window lift plate, pulleys and drum

Particular requirements:

Mechanical strength, low tendency to creep, good friction and wear resistance in operation

Products:

NX-20, TX-11H, F10-02, F10-03H, F20-03, FG2025



### Conveyor chain links

Particular requirements:

Low noise, high mechanical strength, low tendency to creep, good friction and wear resistance in operation

Products:

TX-31, TX-11H, F10-02, F20-03, F25-03

# 한국엔지니어링플라스틱(주)

## KOREA ENGINEERING PLASTICS CO.,LTD.

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