

## Examples of typical applications

Examples include fasteners, buckles, cable ties, conveying systems, spring elements, seals, bushings, gears, protective parts and impact absorbing devices. However, application can be extended to any mechanical or functional part which requires shock resistance, toughness, resilience and noise damping.



Fasteners



Bed spring element



Buckles

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KOREA ENGINEERING PLASTICS CO.,LTD.

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ACETAL COPOLYMER

**KEPITAL®**



**KEPITAL® TE-22S & TE-23S**  
New Generation of  
Impact Modified Grades

**KEPITAL® ST Series**  
Super Toughened Grades

## KEPITAL® TE-22S & TE-23S New Generation of Impact Modified Grades

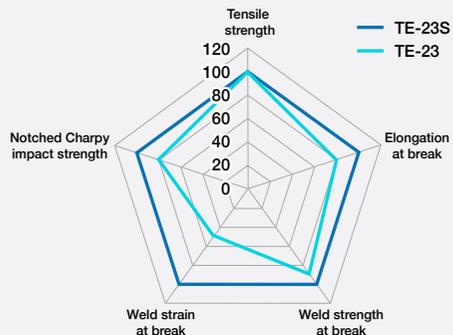
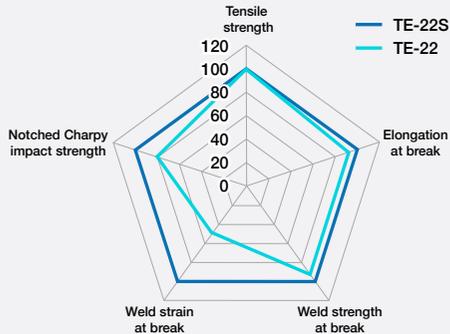
KOREA ENGINEERING PLASTICS CO., LTD (KEP) has launched the next generation of impact-modified POM, TE-22S and TE-23S developed to meet market demand for balanced mechanical properties.

Besides their balanced mechanical properties, TE-22S and TE-23S offer better performance at the weld line strength than conventional impact-modified POM. It is possible to commercialize the next generation of impact-modified POM through a collaboration with KEP right from the beginning of the development based on company's extensive experience with impact-modified POM.

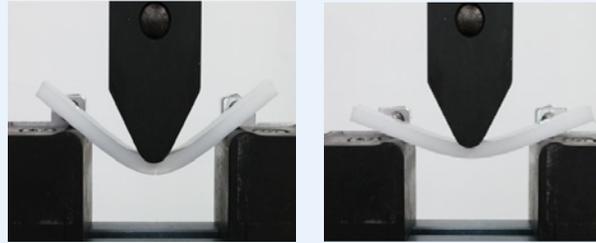
### Key features of KEPITAL® TE-22S & TE-23S

- Balanced mechanical properties
- Outstanding weld line strength

#### Balanced mechanical properties of new impact-modified POM



### Comparison of weld strain at break (flexural test)



TE-23S (Next generation)

TE-23 (Conventional)

### KEPITAL® ST series Super toughened grades

Despite widespread usage of impact modified POM in many applications, there have been some limitations due to the inherent rigidity of POM itself. Especially applications requiring low modulus and high flexibility have been regarded as an unreachable area for POM and TPEE has been given preference for that purpose.

The KEPITAL ST series may be a new solution for such applications since it shows comparable properties to those of TPEE as well as POM's unique characteristics.

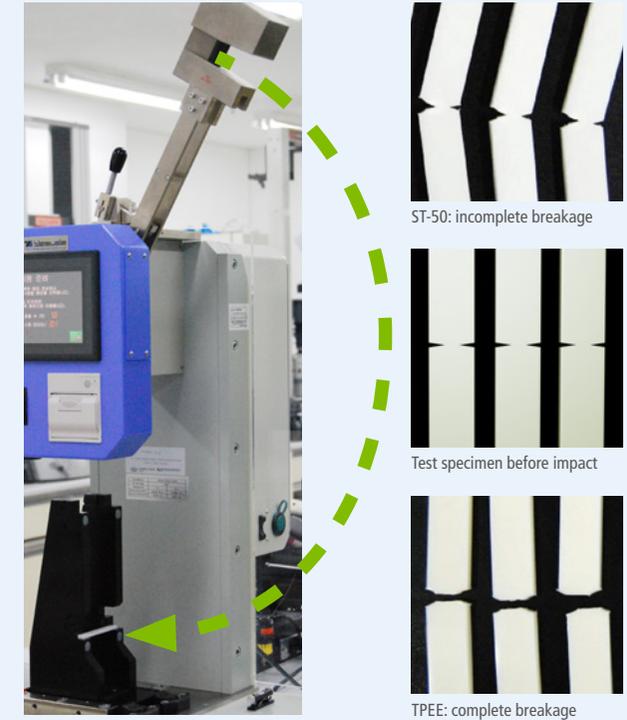
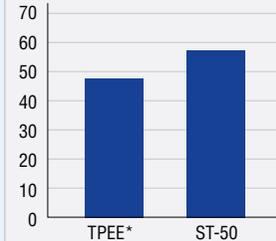
### Key features of the ST series

- Ultra high-impact strength and toughness
- Low modulus and flexibility, overcoming the inherent rigidity of POM
- Wider working temperature provision, but less temperature dependency than TPEE
- Less notch sensitivity than TPEE

Notched Charpy Impact Strength at -40 °C (kJ/m<sup>2</sup>)



Heat Deflection Temperature at 1.8 MPa (°C)



The upper left image shows the Charpy impact strength test with a double notched specimen in order to demonstrate the different impact resistance behavior, which cannot be seen in the normal one-sided notched test specimen.

### Comparison of general properties

Classification	Test Method	Unit	TPEE*	ST-50	ST-70
Density	ISO 1183	g/cm <sup>3</sup>	1.26	1.28	1.25
Tensile strength	ISO	MPa	26	24	17
Elongation at break	527-1,2	%	300 ≤	300 ≤	300 ≤
Flexural modulus	ISO 178	MPa	550	720	320
Hardness, Shore D	ISO 868		69	64	45
Notched Charpy impact strength	ISO 179	kJ/m <sup>2</sup>	30	no break	no break

\*TPEE in this flyer is a grade comparable to ST-50