

# **ITW** Thermoplastic Molding Material

## Specification Summary

ITW thermoplastics molding materials are molded to provide the excellent performance of noise, shock and vibration reduction, and the damping loss factor, hardness and stiffness are adjustable to achieve the desired dynamic response. The properties will increase the system reliability, improve precision and can extend the product life. Applications include computer, communication, consumer electronics products, mechanical devices, precision equipments... The feature of ITW thermal molding materials are:

- ✓ UL-94 V0 listed
- ✓ Halogen free, RoHS and REACH compliant
- ✓ Highly damped elastomer material exhibits extremely low rebound
- ✓ Provide lower amplitude at resonance than the similar thermoplastic elastomer
- ✓ Excellent overmolding performance
- ✓ Rapid settling to equilibrium after shock or vibration

Material Properties									
Part Number	ITWTPE-U0130X	ITWTPE-U0145X	ITWTPE-U0155X	ITWTPE-N0260X	ITWTPE-N0165X	ITWTPE-U0170X	ITWTPE-U0185X	ITWTPE-N0190X	ITWTPE-U0195X
<b>Hardness</b>									
JIS-K6301 Shore A 23C	33	46	55	60	65	70	87	89	93
<b>Density (g/cm<sup>3</sup>)</b>									
JIS-K7112	1.250	1.255	1.270	1.141	1.111	1.284	1.284	1.004	1.340
<b>Tensile Strength (kg/cm<sup>2</sup>)</b>									
JIS-K6301	0.13	0.22	0.35	0.29	1.06	0.45	0.69	1.10	0.75
<b>Elongation at break (%)</b>									
JIS-K6301	879	806	670	379	548	660	369	397	385
<b>100% Module (kg/cm<sup>2</sup>)</b>									
JIS-K6301	0.06	0.1	0.18	0.14	0.17	0.21	0.23	0.62	0.35
<b>300% Module (kg/cm<sup>2</sup>)</b>									
JIS-K6301	0.03	0.04	0.07	0.09	0.11	0.09	0.15	0.27	0.15
<b>Tear Strength (kg/mm)</b>									
JIS-K6301-B	1.07	1.53	2.05	2.35	2.58	2.50	2.82	7.17	4.32
<b>Flammability</b>									
UL94	V0 listed	V0 listed	V0 listed	HB	HB	V0 listed	V0 listed	HB	V0 listed
<b>RoHS Compliant</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Halogen Free</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



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ITW Electronic Business Asia

[www.itweba.com](http://www.itweba.com); [www.itw.com](http://www.itw.com)

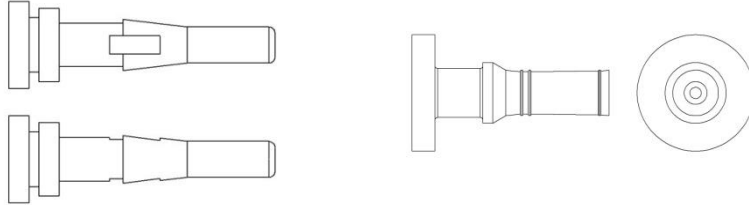
A-4, 3-2, K.E.P.Z., Kaohsiung, Taiwan

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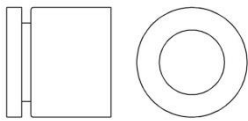
Email: [sales@itweba.com](mailto:sales@itweba.com)

### ITW Standard Configuration

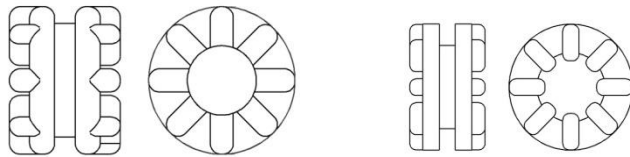
#### Fan isolator



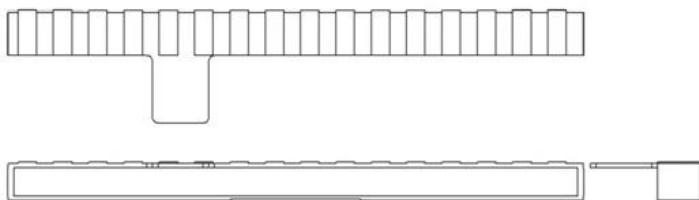
#### Supports Spacer



#### Ribbed Grommet



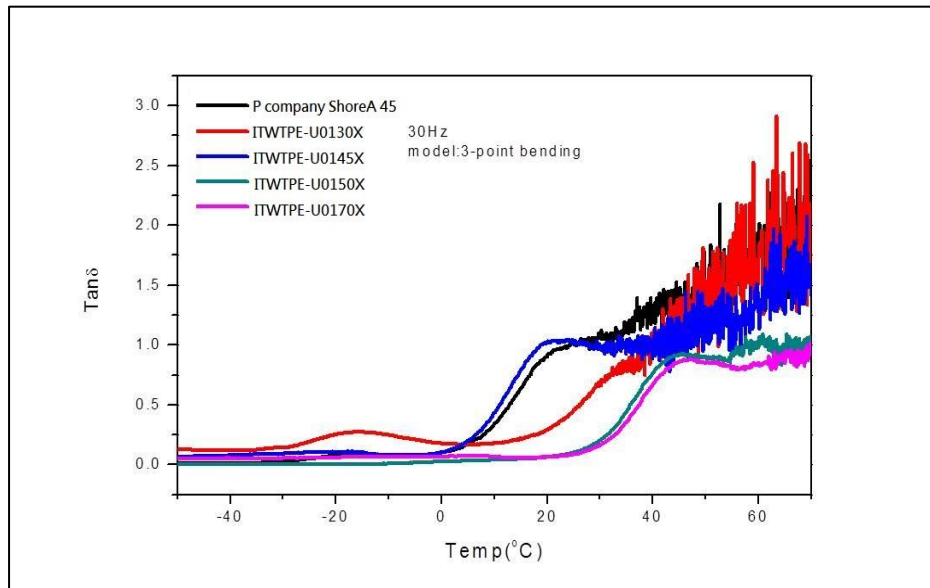
#### Hard Drive protector



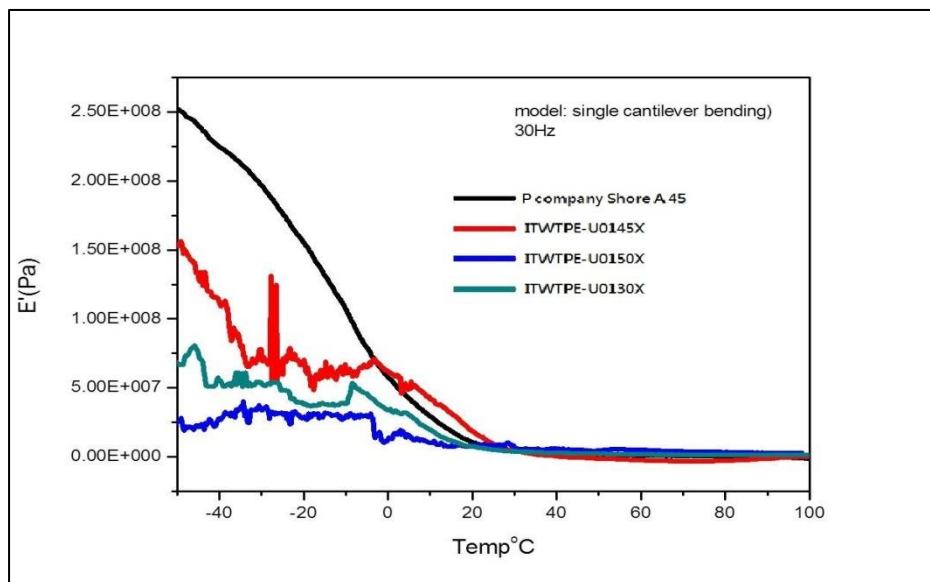
### Dynamic Viscoelasticity Analysis

The Loss factor is measured and comparison with P-company Thermoplastics material is made.

Testing equipment: DMA  
 Sample size: W5 x L8 x t3  
 Temperature range: -40 to 70  
 Frequency at measurement: 30Hz  
 Mode: Single Cantilever Bending



Tan  $\delta$



Storage Modulus



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### Vibration Transmissibility Analysis

Testing Equipment: VST  
 Testing piece: Support spacer 31FT03  
 Frequency Range: 8~200 Hz  
 Sweep Time: 3 min  
 Acceleration: 0.5G constant Sine wave form  
 Testing setup: Vibrate in the direction normal to the

