SUPERSOFT URETHANE BUSHES

- Low creep rate compared to other polymers.
- Can absorb shock efficiently for millions of cycles.
- Temperature Ranges: -15°C to +98°C

The super soft urethane bushes are made of a soft visco-elastic polymer. Visco-elastic means that a material exhibits properties of both liquids (viscous solutions) and solids (elastic materials).

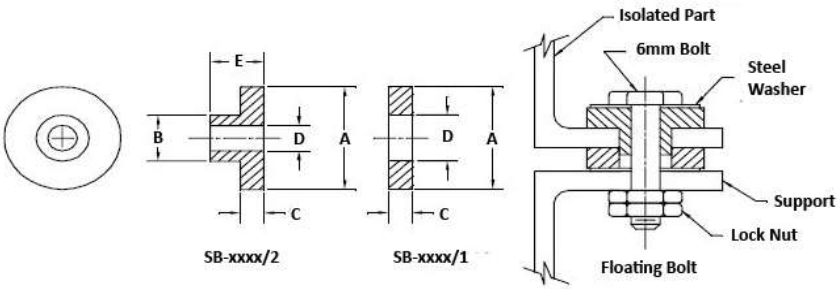
The super soft urethane bushes have the properties of a thermoset, polyether-based, polyurethane material. The material combines shock absorption, good memory, vibration isolation and vibration damping characteristics. In addition it is a very effective acoustic damper and absorber. While many materials exhibit one of these characteristics, it combines all of them in a stable material with a long fatigue life.

Using two bushings together or a bushing and washer(s), you can create a floating bolt that isolates the unit from any metal-to-metal contact. Different shores allow for different spring rates. Load ratings assume a 10%-20% deflection of the material. This deflection is achieved by a combination of system weight and torqueing of the connecting bolts.

Do not over torque the bolts as this defeats the intended vibration and shortens the super soft urethane bush's life. Use a high quality (thread deforming) lock nut or doubled jam nuts to prevent vibration from losing the bolt.

Unlike other products the super soft urethane bushes may be used in tension connections.

Dimensional Data



Part Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
SB1210/1	12.7	-	4.8	5.7	-
SB1210/2	12.7	5.7	4.8	3.15	10.0
SB2520/1	25.4	-	9.6	11.4	-
SB2520/2	25.4	11.4	9.6	6.3	20.0

	Load per mount (kg)		
Part No. (combined)	30 Shore 00	50 Shore 00	70 Shore 00
SB1210/1/2	0.25 – 0.75	0.75 – 1.25	1.25 – 1.75
SB2520/1/2	2-3	3-5	5-7

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SUPERSOFT URETHANE BUSHES

Material Properties

Property	Hardness material comparison			Units
Shore Hardness	30	50	70	Shore 00
Tensile Strength at Break	5.87	8.64	14.52	Kg/cm_3
% Elongation at Break	8.82	568	399	%
Tensile Elastic Stress at 100% Strain	1.26	1.79	4.66	Kg/cm_3
Tensile Elastic Stress at 200% Strain	2.56	3.86	8.95	Kg/cm_3
Tensile Elastic Stress at 300% Strain	3.87	5.65	11.69	Kg/cm_3
Compressive Stress at 20% Strain	0.45	0.85	2.11	Kg/cm_3
Compressive Stress at 50% Strain	6.07	7.4	16.34	Kg/cm_3
Tear Strength	7.81	8.72	11.69	Kg/cm_3
Bulk Modulus	-	2.86	-	gPascal
Static Coefficient of Friction (on polished steel)	15.8	10.4	4.1	-
Kinetic Coefficient of Friction (on polished steel)	3.3	2.6	2.5	-
Density	1.368	1.36	1.358	gm/c c
Specific Gravity	1.372	1.364	1.363	-
Optimum Temperature Range*	-15	to	98	^oC
Glass Transition Temperature	-38.7	-37.4	-34.7	^oC
Flash Ignition Temperature	-	317	-	^oC
Self Ignition Temperature	-	417	-	^oC
Flammability Rating (Flame Retardant versions available to special order)	V-1 / V-2	V-1 / V-2	V-1 / V-2	-
Resilience Test Rebound Height	2	11	22	%
Resilience Test Rebound Height***	16	18	25	%
Dielectric Strength	241	256	261	v/mil
Dynamic Young's Modulus at 5 Hz	6.34	7.4	8.45	Kg/cm_3
Dynamic Young's Modulus at 15 Hz	9.51	10.67	11.41	Kg/cm_3
Dynamic Young's Modulus at 30 Hz	13.1	14.79	16.7	Kg/cm_3
Dynamic Young's Modulus at 50 Hz	17.33	19.02	21.14	Kg/cm_3
Tangent Delta at 5 Hz Excitation	0.3	0.56	0.56	-
Tangent Delta at 15 Hz Excitation	0.38	0.58	0.6	-
Tangent Delta at 30 Hz Excitation	0.45	0.57	0.59	-
Tangent Delta at 50 Hz Excitation	0.35	0.5	0.55	-
Bacterial Resistance	-	No Growth	-	-
Fungal Resistance	-	No Growth	-	-
Heat Aging	-	Stable	-	-
Ultraviolet	-	Good	-	-
Ozone	Can Be Co	-	-	-
Chemical Resistance to Hydraulic Fluid	-	-1.4	-	%
Chemical Resistance to Kerosene	-	4.3	-	%
Chemical Resistance to Diesel	-	6.4	-	%
Chemical Resistance to Soap Solution	-	5	-	%
Acoustic Properties: Transmission in air	-	Greater than 40^	-	dec/cm

*** Reduced strength and damping up to 120C. Increased spring rate down to glass transition temperature.**

**** Underwriters Laboratory 94 Compatibility.**

***** Modified for the effects of material tack.**

^ At 50 hertz. Transmission loss increases with frequency.

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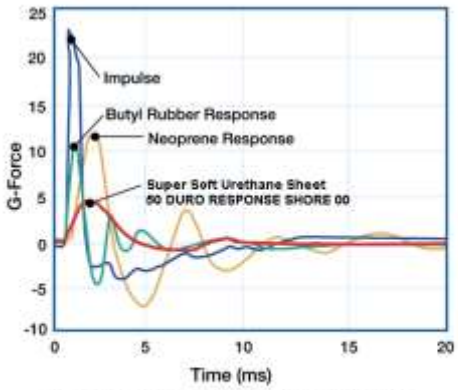
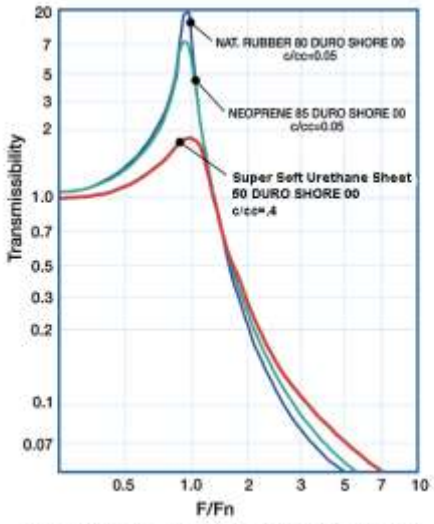
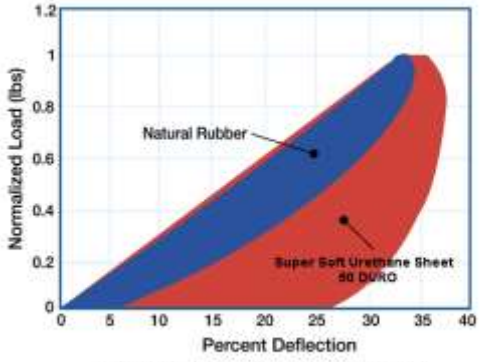


Time Delay Effect of Impulse (Shock) Response of Selected Materials



Ratio of Excitation Frequency to Natural Frequency



Hysteresis (Mechanical Energy converted to heat each cycle)

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