



MillaMed®: TSE’s Millable Polyurethane Compounds for Medical Applications

USP Class VI

MillaMed compounds are solid, millable polyurethane compounds, based upon aliphatic polyether polyurethanes, designed for medical applications. MillaMed compounds are molded and cured (vulcanized) like other rubber compounds, and they have excellent physical properties and abrasion resistance, along with good radiation and gas permeability resistance.

MillaMed PU2055 (55 Shore A) and MillaMed PU2075 (75 Shore A) are transparent compounds that can be blended in any proportion to get intermediate hardnesses.

Sterilization: Autoclave, Gamma radiation or ETO (ethylene oxide gas) can be used for sterilization:

Autoclave: Up to 10 cycles, however slight yellowing may result.

ETO Gas: Modulus (tensile stress) of the product may increase slightly.

Gamma Radiation: Up to 60 kGy can be used; the modulus may increase slightly.

	MillaMed PU2075	MillaMed PU2055
Rheometer at 160°C, tc90, min.	2.7	3.5
Typical Physical Properties (See Note 5)		
Samples Press Cured 4 min./160°C and Post-Cured 4 hr/100°C		
Hardness, Shore A	75	55
TSE-100*, psi (MPa)	390 (2.7)	165 (1.1)
TSE-300*, psi (MPa)	1150 (7.9)	490 (3.4)
Tensile Strength, psi (MPa)	4770 (32.9)	2170 (15.0)
Elongation, %	565	540
Tear Die B, lb/in (kN/m)	344 (60.2)	176 (30.8)
Tear Die C, lb/in (kN/m)	221 (38.7)	118 (20.6)
Bashore Resilience, %	52	58
Compression Set, 22h/70°C, %	37	24
DIN Abrasion, mm ³ loss	87	88
Cytotoxicity**	Pass	Pass
Class VI Testing**	Pass	Pass

*TSE-XXX = Tensile Stress ('modulus') at XXX% elongation

** Cytotoxicity per ISO 10993-5 Elution Method. Tests conducted by NAMSA September-November 2014

Notes

1. These materials are not intended for long term implant (>29 days).
2. These materials have passed screening tests that are applicable to products intended for use up to 29 days, but TSE makes no end-use representation based on the testing.
3. It is the user’s responsibility to independently test and verify the safety and suitability of the material performance in the intended application.
4. MillaMed materials are available from R.D. Abbott. Contact R.D. Abbott at (+1) 562-944-5354.
5. Specification Writers: These values are typical values and are not intended for use in preparing specifications. Contact R.D. Abbott prior to writing specifications for these products.