

MATERIAL SELECTION GUIDE

Basic Properties	Castable Products (< 150 Lbs)					Pipe Lining Products (> 150 Lbs)			Grouts	
	2130	2140	2240	2825	3040	2855	6500	7500	275	255
Economy of Material	G	G	G	G	G	G	G	G	-	-
Compression Set Resistance	G	G	G	G	G	G	G	G	-	-
Resilience (Rebound)	VG	G	G	A	A	G	A	G	G	G
Tear Strength	P	G	G	G	VG	A	A	A	A	A
Hydrolysis Resistance	A	G	G	VG	P	G	VG	VG	G	G
Ozone Resistance	VG	VG	VG	VG	VG	VG	VG	VG	VG	VG
Resistance to Oil & Grease	VG	VG	VG	VG	VG	VG	VG	VG	VG	VG
Water Swell Resistance	G	G	G	G	G	G	G	G	A	A
Abrasion Resistance	-	-	-	-	-	-	-	-	-	-
Particle Size > 1/4"	P	G	G	G	G	G	G	G	G	G
Low Angle Impingement	VG	G	G	A	A	VG	A	VG	G	G
High Angle Impingement	VG	G	G	A	A	G	A	G	G	G
Sliding	A	G	G	A	VG	G	G	G	G	G
High Temperature – <i>Optimal</i>	50 – 130°F	50 – 130°F	50 – 130°F	130 – 200°F	50 – 100°F	50 – 130°F	130 – 200°F	100 – 160°F	50 – 130°F	50 – 130°F
High Temperature – <i>Special</i>	-	180°F	180°F	-	50 – 200°F	180°F	-	200°F	180°F	180°F
Low Temperature – <i>Limit</i>	-60°F	-60°F	-60°F	-60°F	-60°F	-60°F	-60°F	-60°F	-60°F	-60°F

VG: Very Good | G: Good | A: Average | P: Poor ■ Wet ■ Dry

Key Factors for Selecting the Proper Urethane Elastomer:

1. Hardness:

- An important factor for load-bearing/compression requirements
- 65-95 Shore A available
- Not a great indicator of overall elastomer performance

2. Service Environment Composition:

- Dry or wet service
- Solution pH
- Slurry particle size, shape, and velocity

3. Operating Temperatures:

- Applications across a broad range of temperatures (-80°F – 93°F)
- Performance properties vary with temperature

4. Abrasion Mechanism:

- Sliding: High toughness and high tear strength are best
- Impact: High resiliency is best
- Erosion/Corrosion: Elastomers protect against most ferrous corrosion mechanisms

5. Tooling Costs:

- Open casting vs. compression vs. injection molds