



# REDCO™ POLYURETHANE

One of the most unique materials available with a very broad hardness range and infinite possibilities for part design.

Redco™ Polyurethane combines the toughness of metal with the elasticity of rubber and has the ability to withstand the most severe abuse.

DECREASED DOWNTIME

ABRASION RESISTANT

REDUCE NOISE

ABSORBS IMPACT

MINIMIZE MAINTENANCE

OUTSTANDING DURABILITY



# Redco™ POLYURETHANE

Redco™ Polyurethane offers strength and durability far beyond the range of most rubbers and plastics, combining the toughness of metal with the elasticity of rubber. It has the ability to withstand severe abuse which saves downtime, replacement costs and minimizes maintenance.

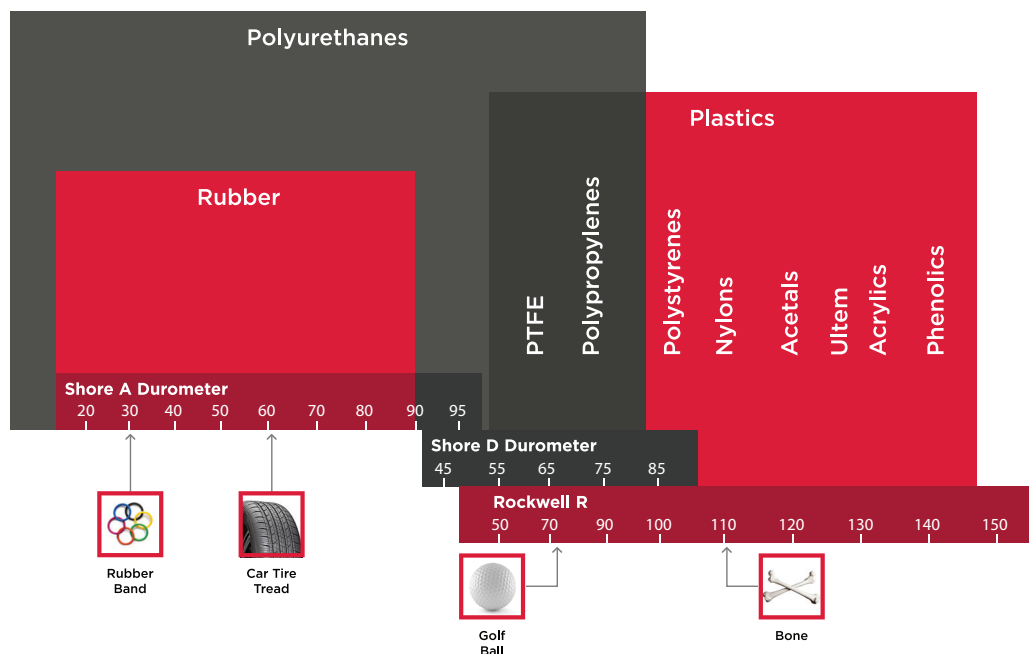
Redco™ Polyurethane is available in a broad range of hardnesses, from eraser soft to bowling ball hard. We customize the material to specific applications without fillers or plasticizers.

We can mold, machine and fabricate a wide range of high quality, custom components that meet high tolerances and strict specifications. With our extensive experience we can solve many application frustrations related to wear, noise, impact and shock.

Cast polyurethanes are tough, strong rubber-like polymers that can retain their original shape and properties for a long service life. Cost effective and dependable, these elastomers combine some of the performance advantages of engineered plastics and metals along with the resiliency and flexibility of rubber.

- Unlimited Custom Molded Shapes
- Outstanding Abrasion Resistance
- High Load Bearing Capability
- Exceptional Impact Strength
- Low Coefficient of Friction
- High Flexural Properties
- Oil & Solvent Resistant
- Resistant to Cold
- Heat Stabilized
- UV Stabilized
- Non Marking
- FDA Compliant Formulations

## HARDNESS COMPARISON CHART





## REDCO™ DEADPLATE

Redco™ Deadplate is a high performance, energy dissipative grade of polyurethane designed for applications where extreme impact absorption is required. Redco™ Deadplate converts up to 90% of impact energy into heat, which dissipates through the material.

DUROMETER HARDNESS RATING: 55-60A      STANDARD COLOR: Light Blue

FEATURES: Strong, Exceptional Bond to Metal, Energy Dissipative, Impact Resistant

**TYPICAL APPLICATIONS:**

Impact and shock pads, transfer plates, load-bars, cushion pads, dissipator channel, etc.

## REDCO™ ULTRA 66

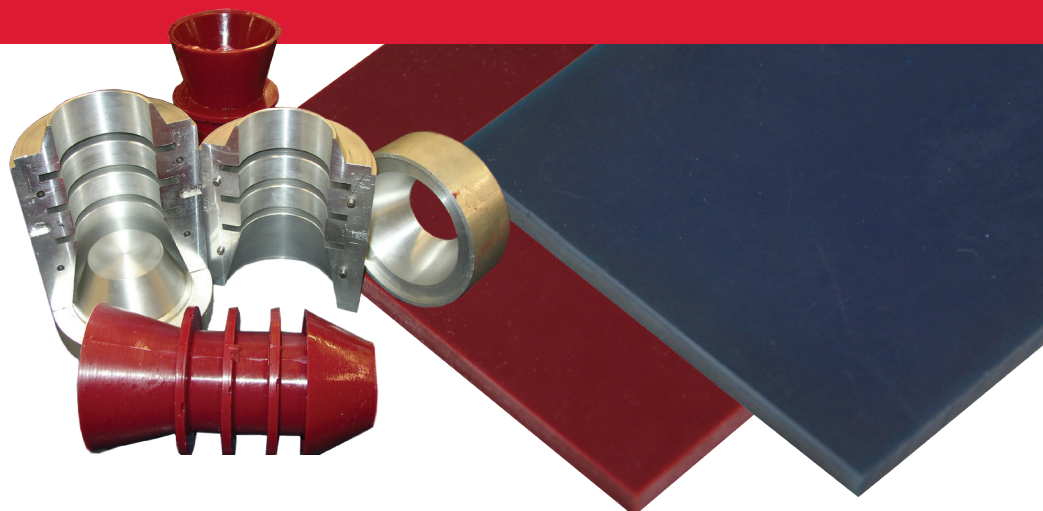
An engineered elastomer grade of polyurethane, Redco™ Ultra 66 is designed for applications where very soft, elastic, rubber-like properties are required in combination with a low-compression set and extreme toughness. Redco™ Ultra 66 also has outstanding solvent and oil resistance.

DUROMETER HARDNESS RATING: 60-65A      STANDARD COLOR: Black

FEATURES: Cut & Tear Resistant, Corrosion Resistant, Strong, Impact Resistant, Elasticity, Oil Resistant

**TYPICAL APPLICATIONS:**

Shaft seals, transmission gaskets, bumpers, pulley & roll covers, impact pads, wipers & squeegees, sorter parts, etc.



## REDCO™ 55A

Redco™ 55A is a pliable urethane similar to a soft rubber, but more resilient, with a balanced range of properties including excellent gripping characteristics.

DUROMETER HARDNESS RATING: 55A      STANDARD COLOR: Purple/Maroon

FEATURES: Strong, Oil Resistant, Abrasion Resistant, Impact Resistant

### TYPICAL APPLICATIONS:

Dolly wheel tires, carry over tires, feed wheels, roll covers, shock and vibration pads, rollers, carry over wheels, bumpers, wheels, flexible parts, impact pads, anti-vibration parts, wipers, etc.

## REDCO™ 60A

This unique formulation stands up to abrasion and is resistant to deterioration in impingement applications. Redco™ 60A also performs well as a shock and vibration buffer while maintaining flexibility.

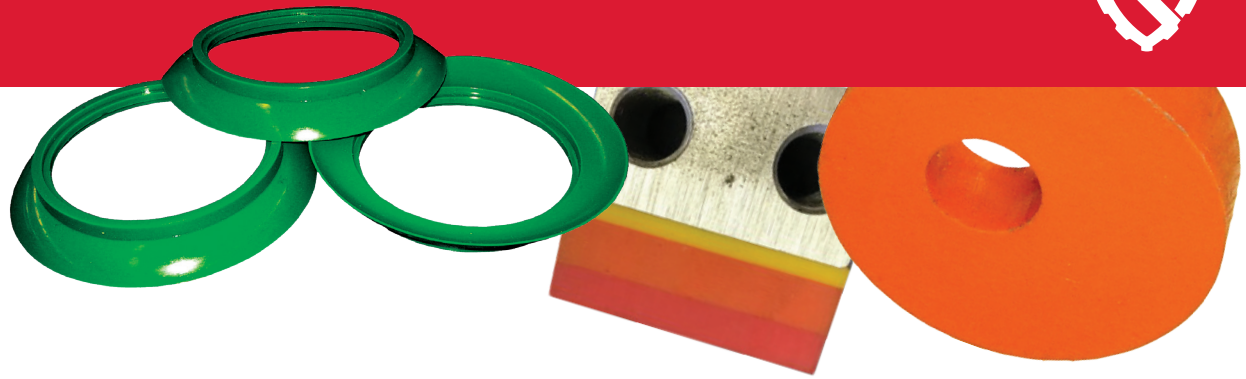
DUROMETER HARDNESS RATING: 60A      STANDARD COLOR: Blue

FEATURES: Strong, Oil Resistant, Abrasion Resistant, Impact Resistant

### TYPICAL APPLICATIONS:

Impact wear liners, wear liners, roll covers, shock and vibration pads, rollers, carry over wheels, bumpers, wheels, flexible parts, impact pads, anti-vibration parts, wipers, etc.

NEED HELP CHOOSING WHICH MATERIAL IS OPTIMAL FOR YOUR APPLICATION? CALL US:



## REDCO™ 70A

Redco™ 70A offers high compression resistance and withstands heavier loads while maintaining gripping characteristics. Redco™ 70A excels when bonded to steel as an impact pad or wheel cover.

DUROMETER HARDNESS RATING: 70A      STANDARD COLOR: Green

FEATURES: Strong, Oil Resistant, Abrasion Resistant, Impact Resistant

### TYPICAL APPLICATIONS:

Packaging system parts, feed system parts, shock pads, springs, seals, shock and vibration pads, washers, roll covers, rollers, carry over wheels, bumpers, wheels, flexible parts, impact pads, anti-vibration parts, wipers, etc.

## REDCO™ 80A

The workhorse of the Redco™ Polyurethane line. More pliable than harder urethanes, Redco™ 80A possesses high shock and vibration tolerances resulting in a material that is effective in a variety of applications where overall toughness and resiliency is desired. Redco™ 80A has the most balanced range of properties in the polyurethane family.

DUROMETER HARDNESS RATING: 80A      STANDARD COLOR: Orange

FEATURES: Strong, Oil Resistant, Abrasion Resistant, Impact Resistant

### TYPICAL APPLICATIONS:

Shock and vibration pads, roll covers, flex couplings, wear parts, impellers, gate valves, flotation cell parts, valve seals, cable sheave liners, deflector plates, belt scrapers, seals, couplings, washers, impact wear pads, liner plates, pump liners, stabilizers, carry over wheels, feed wheels, roll covers, rollers, bumpers, wheels, flexible parts, impact pads, anti-vibration parts, wipers, etc.





## REDCO™ 350

Redco™ 350 (85A) is a high-performance grade of polyurethane designed for applications where exceptional wear and abrasion resistance is required such as where sand, slurry, gravel, or dry-impingement is involved. Redco™ 350 is also specially formulated for use in sand & gravel and bulk material handling applications.

DUROMETER HARDNESS RATING: 85A      STANDARD COLOR: Green

FEATURES: Weather Resistant, Cut & Tear Resistant, Impact Resistant, Elasticity

**TYPICAL APPLICATIONS:**

Abrasion parts, pump liners, piping, chute liners, belt scrapers, belt-skirting, seals & gaskets, etc.

## REDCO™ 430

Our most commonly used material, ideal for environments where high abrasion resistance is the primary concern. Redco™ 430 (90A) also offers superior impingement resistance.

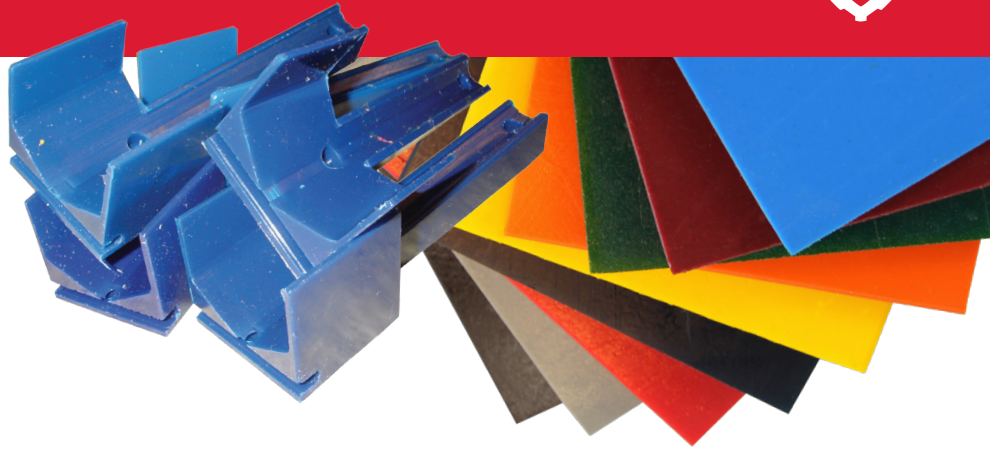
DUROMETER HARDNESS RATING: 43D, 90A      STANDARD COLOR: Yellow

FEATURES: Weather Resistant, Cut & Tear Resistant, Impact Resistant, Elasticity

**TYPICAL APPLICATIONS:**

Shock and vibration pads, roll covers, springs, cylinder cushions, carriage bumpers, cable sheave liners, deflector plates, impact wear liners, belt scrapers, seals, couplings, washers, cones, impellers, liner plates, pump liners, valve gates, stabilizers, desilter cones, cleaner cones, wear slides, wheels & pulley lagging, protective chute liners, impact pads, slurry-parts, spouts, wear liners, springs, etc.

NEED HELP CHOOSING WHICH MATERIAL IS OPTIMAL FOR YOUR APPLICATION? CALL US:



## REDCO™ 500

An excellent shock absorber, Redco™ 500 combines the qualities of hard and softer urethanes with resistance to impact and wear. Redco™ 500 is able to provide strength and rigidity for angular profiles where softer urethanes would not hold up and it also has one of the best compression-sets for load bearing applications.

DUROMETER HARDNESS RATING: 50D, 95A

STANDARD COLOR: Dark Blue

FEATURES: Weather Resistant, Cut & Tear Resistant, Impact Resistant, Elasticity

### TYPICAL APPLICATIONS:

Shock pads, isolation pads, drive couplings and discs, wear plate, belt scrapers, deflector plates, roll covers, seals, rollers, couplings, washers, impact wear pads, liner plates, pump liners, valve gates, cleaner cones, sorter hooks, abrasion protectors, cutting anvils, rolls covers, load pads, seals & gaskets, wheels, mechanical parts, etc.

## REDCO™ 600

A high-performance material for wear applications in extreme cold weather. Redco™ 600 is able to hold its form under load and stress in structural applications. A strong choice where mechanical properties are required to be coupled with urethane's exceptional impact, wear and abrasion resistance.

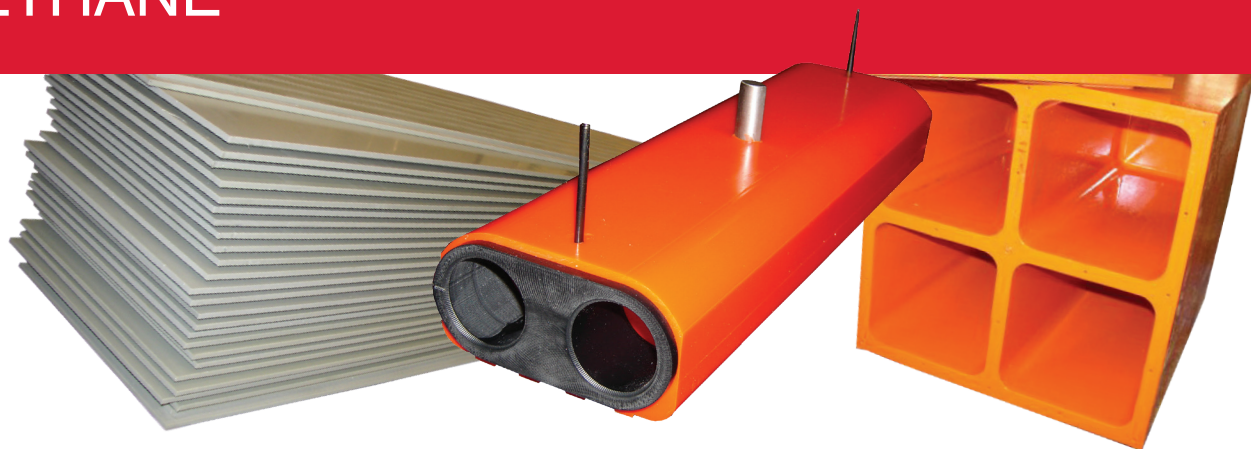
DUROMETER HARDNESS RATING: 60D, 60R

STANDARD COLOR: Black

FEATURES: Strong, Weather Resistant, Light, Impact Resistant

### TYPICAL APPLICATIONS:

Forklift tires, dolly wheel tires, washers, wear slides, high impact/low temperature parts, slide pads, svi pads, wheels, etc.



## REDCO™ VYPUR FRAS

Premium fire retardant and anti-static formulation designed for applications where exceptional wear and abrasion resistance is required due to shock, vibration and impact. Certified in accordance with MSHA IC-297.

DUROMETER HARDNESS RATING: Available from 85A - 75D

STANDARD COLOR: Orange

FEATURES: Strong, Weather Resistant, Light, Impact Resistant

### TYPICAL APPLICATIONS:

Pulleys, belt scrapers and wipers, skirtboards, transfer chute liners, bearings, bumpers, chain flights, sprockets, cable crossover pads, etc.

## REDCO™ SPS-2000

This material was developed to address the plastic contamination concerns of Kraft Pulp Mills. Redco™ SPS-2000 is a PULP SAFE polyurethane wear material that was specially developed for sawmills and planer mills that are supplying fiber to kraft pulp mills.

Redco™ SPS-2000 completely dissolves in the kraft cooking process with no possibility of pulp fiber contamination. Redco™ SPS-2000 possesses good wear characteristics, the lowest coefficient of friction of all urethanes, high dimensional stability, abrasion resistance, load and impact strength and is unaffected by most oils, greases and solvents. SPS-2000 can solve contamination concerns as well as wear.

DUROMETER HARDNESS RATING: 75D, 90R

STANDARD COLOR: Grey

FEATURES: Increased Dimensional Stability, Abrasion Resistant, Impact Resistance, Oil & Solvent Resistant

### TYPICAL APPLICATIONS:

Used in hundreds of applications in sawmills, planer mills, kraft pulp & paper mills.





## REDCO™ 750

Redco™ 750 provides a long-lasting replacement for brass or bronze with molding capabilities that give precise results without machining. It is a proven solution for bearings. Redco™ 750 is a superior grade of polyurethane designed for applications where durable, strong properties are required along with exceptional impact, wear and abrasion resistance.

DUROMETER HARDNESS RATING: 75D, 90R

STANDARD COLOR: Red

FEATURES: Strong, Weather Resistant, Light, Impact Resistant

### TYPICAL APPLICATIONS:

Bearings, bushings, wear plates, channel, liners, seals, hanger bearings, sprockets, rollers, drive wheels, washers, flotation cell parts, carry over wheels, feed wheels, sorter hooks, wear slides, etc.



## REDCO™ 750 SXL

Designed for use in shock, sliding, low temperature and gritty environments. Redco™ 750 SXL has excellent self lubricating characteristics which make it ideal for applications which may experience dry running periods. Serves very well as a low-maintenance bearing solution.

DUROMETER HARDNESS RATING: 75D, 90R

STANDARD COLOR: Black

FEATURES: Strong, Weather Resistant, Light, Impact Resistant

### TYPICAL APPLICATIONS:

Bearings, bushings, wear plates, channel, liners, seals, hanger bearings, washers, liners, flotation cell parts, retainers, idler bearings, etc.

# Redco™ POLYURETHANE

Tradename	Redco 750	Redco 600	Redco 500	Redco 430	Redco 350	Redco 80A	Redco 70A	Redco 60A	Redco 55A	Redco Dead-plate	Redco Ultra 66
Short Name	750	600	500	430	350	80A	70A	60A	55A	Deadplate	Ultra 66
Nominal Durometer	75D	60D	50D/95A	90A	85A	80A	70A	60A	55A	57A	60-65A
Standard Color	Red	Black	Blue	Yellow	Green	Orange	Green?	Blue?	Purple/Maroon	Light Blue	Black
Properties											
Durometer	75 ±5	60 ±5	95 ±5	90 ±5	85 ±3	80 ±3	70 ±3	60 ±3	55 ±3	57 ±5	62
Tensile Strength Mpa (psi)	55.1 (8000)	46.2 (6700)	36-44.8 (5221-6500)	36-37.9 (5221-5500)	34 (4931)	41 (5947)	44 (6382)	37 (5366)	37 (5366)	26.2 (3800)	30.1 (4400)
100% Modulus Mpa (psi)	34.5 (5000)	24.8 (3600)	11.0-12.4 (1595-1800)	7.6-8.8 (1100-1276)	7.2 (1044)	7 (1015)	3.8 (551)	2.6 (377)	1.9 (276)	2.14 (310)	2.1 (300)
200% Modulus Mpa (psi)	-	33.1 (4800)	-	-	-	-	-	-	-	-	-
300% Modulus Mpa (psi)	-	-	18.3-29.6 (2654-4300)	15.2-16.3 (2200-2364)	13.8 (2002)	17.5 (2538)	9.5 (1378)	6.4 (928)	3.9 (566)	5.7 (830)	3.4 (500)
Elongation (%)	210	290	380-550	430-587	608	500	500	650	690	400	480
Angle Tear Strength, Die C (kN/m, pli)	-	105 (600)	117-123 (665-700)	102-105 (583-600)	91	85.5 (488)	57.3 (327)	48.5 (277)	36.4 (208)	35 (200)	33.2 (190)
Trouser Tear Strength (kN/m, pli)	-	-	-	-	47	31.5 (180)	18.1 (103)	13.6 (78)	13.5 (77)	-	-
DIN Resilience (%)	35 Bashore	40 Bashore	40-60 Bashore	42-62 Bashore	66	53	55	65	66	10 Bashore	30 Bashore
DIN Abrasion Resistance 10N (mm ^ 3)	-	-	-	-	34	21	17	15	14	-	-
Compression Set (Method B)	55%	28%	20-36%	17-30%	15%	27%	29%	31%	31%	-	6%
Cured Specific Gravity	1.21	1.16	1.13	1.11	1.10	1.22	1.21	1.20	1.19	1.25	1.16
Split Tear, D-470 kN/m, (pli)	21 (120)	20.1 (115)	-	-	-	-	-	-	-	2.45 (14)	3.8 (22)
Compression Set, Method A	1	-	-	-	-	-	-	-	-	-	-
Bell Brittle Point - F, (C)	-70., (-57)	-	-	-	-	-	-	-	-	-	-
Impact Strength, Notched IZOD, ft.lb./inch (Joules/m)	14 to 18 (742 to 954)	-	-	-	-	-	-	-	-	-	-
Flexural Modulus MPa (psi)	965 (140,000)	-	-	-	-	-	-	-	-	-	-



# OUTSTANDING PROPERTIES



## OIL, GREASE AND CHEMICAL RESISTANCE

Resistant to a wide variety of chemicals and solvents.

## FLEX PROPERTIES

Exceptional strength and toughness that will resist cracking under repeated flex despite cuts or nicks.



## CONTROLLABLE REBOUND OR RESILIENCE

Unlike rubber, Redco™ Polyurethane is available with a very wide range of hardnesses to control or eliminate rebound.

## COEFFICIENT OF FRICTION

Higher durometer grades have the lowest coefficient of friction, ideal for applications requiring a slick surface.



## LOW TEMPERATURE PROPERTIES

Redco™ Polyurethane remains remarkably flexible in cold environments.

## HEAT RESISTANCE

Resistant to dry intermittent temperatures of up to 250°F.



## ELECTRICAL PROPERTIES

Excellent insulating properties.

## WATER RESISTANCE

Very low absorption rate of .3 to 1% of weight. Resistant to the swelling and deteriorating effects of water.



## OXYGEN AND OZONE RESISTANCE

Virtually immune to several hundred hours of attack by normal atmospheric concentrations.

## MOLD, MILDEW, FUNGUS RESISTANCE

Highly resistant to fungus, mold and mildew growth.



## FLAME RESISTANCE

Many grades are ASTM D-635 compliant and are self-extinguishing. Special compounds are available where a completely non-burning material is required.

## MACHINABILITY

Harder urethanes grades can be machined, drilled and tapped.



## BONDING TO OTHER MATERIALS

Redco™ Polyurethane can be bonded to a wide variety of materials. High strength bonds can be obtained to most metals, wood and many plastics including; PVC, Nylon and PTFE.

## Versus Rubber, Polyurethane has

### Better:

Abrasion Resistance  
Cut and Tear Resistance  
Load-Bearing Capability  
Wear Life

### Potential For:

Complex Shapes  
Colorability  
Broader Hardness Range  
Lower Cost, Low-Pressure Tooling  
Lower Cost Molding vs. Metal Machining  
Noise Reduction  
Lower Product Cost

## Versus Metal, Polyurethane has

### Better:

Abrasion Resistance  
Impact Resistance  
Flexibility  
Resilience  
Corrosion Resistance

### Potential For:

Weight Reduction  
Non-Conductive  
Non-Sparking  
Noise Reduction  
Lower Cost vs. Machining  
Lower Product Cost  
Lower Cost, Low-Pressure Tooling

## Versus Plastic, Polyurethane has

### Better:

Abrasion Resistance  
Load-Bearing Capability  
Impact Resistance  
Elastic Memory  
Resilience  
Compression Set Resistance  
Low Operating Temperature

### Potential For:

Complex Shapes  
Thin & Thick Sections  
A Variable Coefficient of Friction  
Noise Reduction  
Lower Cost, Low-Pressure Tooling  
Lower Cost Molding vs. Metal Machining  
Lower Product Cost  
Lower Cost, Low-Pressure Tooling



## MAKE. CREATE. INNOVATE

### FABRICATION AND MACHINING SERVICES IN EVERY LOCATION

Our custom plastic and rubber fabrication shops are fully equipped and we have trained and experienced machinists to produce quality parts from many types of plastic and rubber materials.

From intricate parts to simple cut-to-size projects, we can help you select the most optimal material for your application and produce the final parts in a timely manner.

We can design, mold, machine, weld, route, and drill to produce prototypes, short runs, production runs or maintenance parts. Save time and money by utilizing our experienced fabricators and plastic and rubber specialists.



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