

# AWC825

## Low Durometer Seal Material

Chesterton's AWC825 is a low durometer thermoset polyurethane (EU) specifically designed to address sealing issues associated with worn, scored, pitted or aged equipment that cannot be reworked due to size, downtime, or cost. This improves cylinder performance and reliability while reducing costs associated with cylinder leakage and rework.

This proprietary material has an 85 shore A hardness that enables it to conform better to surface irregularities and create a positive seal which helps to extend cylinder MTBR. AWC825 has superior abrasion and wear resistance versus conventional materials ensuring lower wear of sealing elements and making it ideal for use in heavy duty industrial hydraulic, and pneumatic cylinders.

The AWC825 is a machinable material that provides the flexibility to manufacture any profile to exact equipment dimensions, with no tooling costs, and same-day availability. Its long-term elastic memory increases sealing preload which helps to ensure maximum performance even under low system pressure.

### Materials Features

- *Low durometer material, designed for use in scored, worn or pitted equipment*
- *Thermoset urethane, provides superior wear and abrasion resistance to increase seal performance*
- *Long-term elastic memory, maintains pre-load under low pressure and withstands compression setting*
- *Hydrolysis resistant, for use in water and conventional hydraulic fluids*
- *Machinable material, eliminates long lead times and tooling costs with flexibility to provide same-day availability*
- *Made-to-order product, available in wiper, rod, piston, and static sealing profiles*
- *Ozone and ultra violet light resistant, to deter material aging ensuring for longer storage and service life*
- *Sizes available up to 1400 mm ( 55") in diameter*

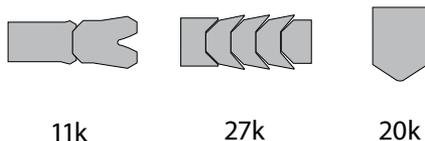
### Equipment

- Industrial hydraulic and mechanical presses
- Heavy duty hydraulic and pneumatic cylinders

### Industries

- |                      |                              |
|----------------------|------------------------------|
| ■ Steel              | ■ Plastics Injection Molding |
| ■ Auto               | ■ Tire                       |
| ■ Aluminum Extrusion | ■ Hydropower                 |
| ■ Wood Based Panel   | ■ General Manufacturing      |

### Common Seal Profiles



- *Accommodates worn, scored, pitted, or aged equipment*
- *Superior wear, tear and abrasion resistance*
- *Long-term elastic memory*
- *Made-to-order product with same day availability*
- *Sizes to 1400 mm (55")*

### Operating Parameters

**Temperature °C (°F):**  
 -40 to 85 (-40 to 185)

**Fluid compatibility:**  
 HF, HFL, HFA, HFB hydraulic fluids (ISO 6743-4)

**Surface finish  $\mu\text{m}$  ( $\mu\text{inch}$ )**  
 Static 0.2 – 1.4 (8-56)  
 Dynamic 0.2 – 1.1 (8-46)

# AWC825 Material Properties

The AWC825 material is a cast, diamine cured thermoset polyether urethane molded into semi-finished billet form which is then machined into a finished seal profile. Chesterton's unique manufacturing process uses a precise combination of pre-polymer and curative mixed at an exact temperature to maximize pot life while maintaining quality and repeatability.

Material Data (Thermoset polyurethane - dark blue color)			
Properties	Test Method	Imperial	Metric
Tensile Strength	ASTM D-412	2025 psi	14.4 MPa
100% Modulus	ASTM D-412	1060 psi	7.3 MPa
300% Modulus	ASTM D-412	- psi	- MPa
Elongation at Break	ASTM D-412	2.3	2.3
Specific Gravity	ASTM D-297	1.12	1.12
Tear Strength (Die C)	ASTM D-470	50 lbf/in	8.75 kN/m
Compression Set (Method B)	ASTM 395 B	0.21	0.21
Bashore (Rebound)	ASTM D-2632	0.19	0.19
Taber Abrasion Resistance	ASTM D-1044	143	143
Durometer	ASTM D-2240	85 Shore A	85 Shore A
Max Temperature Limit	-	185°F	85°C
Min Temperature Limit	-	-40°F	-40°C

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