

# AWC808

## Thermoplastic Polymer Material

### Cost-Effective Sealing for Standard Fluid Power Applications

Chesterton's AWC808 is a thermoplastic polyester polyurethane (AU) material designed to provide optimum sealing durability for light- and medium-duty fluid power equipment and industry-standard hydraulic pneumatic cylinders.

This thermoplastic material has a 95 Shore A hardness, providing excellent physical characteristics, and high resistance against mechanical stress and impact. AWC808 has superior abrasion and wear resistance versus conventional elastomer and thermoplastic polymer materials which ensures lower wear of sealing elements. This characteristic makes it universally applicable for most industry standard fluid power applications.

The AWC808 is a machinable material that can be manufactured in any profile to exact equipment dimensions with no tooling costs and same-day availability. Its long-term elastic memory increases sealing pre-load which helps to ensure maximum performance even under low system pressure.

#### Material Features

- Thermoplastic polyester urethane provides superior wear and abrasion resistance to increase seal performance
- Long-term elastic memory maintains pre-load under low pressure and withstands compression settings
- Hydrolysis resistant for use in water and conventional hydraulic fluids
- Excellent chemical compatibility
- Made-to-order; available in wiper, rod, piston, and static sealing profiles; eliminates tooling costs
- Sizes available up to 400 mm (15.75") in diameter



- Universally applicable for common standard fluid power applications
- Direct replacement of most common machinable thermoplastic seal materials
- Minimizes environmental and safety concerns due to leakage
- Cost-effective solution for light- and medium-duty applications
- Eliminate worries on product lead time (SpeedSeal Program)

#### Operating Parameters

##### Temperatures

-20 to 115°C (-4 to 240°F)

##### Fluid compatibility

HF, HFL, HFA, HFB  
HFD-U  
HTEG, HEES  
hydraulic fluids (ISO 6743-4)

##### Speeds (linear)

0.5 m/s (100 ft/min)

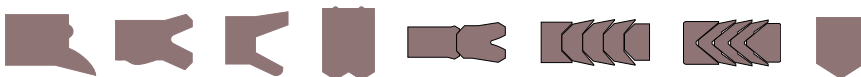
##### Pressures

40 MPa (5800 Psi)

##### Surface Finish

Static 0.76 to 1.17µm (30 to 46µ inch)  
Dynamic 0.20 to 0.61µm (8 to 24µ inch)

#### Common Seal Profiles



W21K

R22K

R23K

R20K1

R11K

27K

R28K

20K

## Equipment

- Industry-standard fluid power equipment
- Hydraulic and mechanical presses
- Light- and medium-duty hydraulic and pneumatic cylinders

## Industries

- Aluminum and Steel
- Automotive
- Wood-Based Panel
- Hydropower
- Cylinder Repair
- Plastic and Rubber
- Injection Molding
- Tire
- General Manufacturing

## Material Properties

The AWC808 material is a cast thermoplastic polyester urethane molded into semi-finished billet form which is then machined into a finished seal profile. Chesterton's unique manufacturing process ensures a consistently maintained, high quality product that is easily replicated.

MATERIAL DATA			
Properties	Test Method	Imperial	Metric
Tensile Strength	DIN 53504	≥7250 psi	≥50 MPa
100% Modulus	DIN 53504	≥2175 psi	≥15 MPa
300% Modulus	DIN 53504	≥4061 psi	≥28 MPa
Elongation at Break	DIN 53504	≥350%	≥350%
Specific Gravity	ISO 1183	0.043 lbf/in	1200 kg/m <sup>3</sup>
Tear Strength	DIN ISO 34-1	≥570lbf/in	≥110 kN/m
Compression Set, 24h, 70°C, 25% def.	ISO 815	≤27%	≤27%
Rebound Elasticity	DIN 53512	–	–
Abrasion	DIN 53516	0.001 in <sup>3</sup>	17 mm <sup>3</sup>
Hardness, Shore A	ISO 868	95 ± 2	95 ± 2
Min Service Temperature	–	-4°F	-20°C
Max Service Temperature	–	185°F	85°C

Max continuous working temperature at 40 MPa (5800 psi) and 0.5 m/sec (100 ft/min)

Chesterton ISO certificates available on [www.chesterton.com/corporate/iso](http://www.chesterton.com/corporate/iso)

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