

# AR® 1

Thermoplastic  
Greene, Tweed & Co.

Message:

Sand and other abrasives are often a challenge for pump users in the power industry. Clearances on line shaft bearings and bowl wear rings open up, increasing pump vibrations and reducing pump efficiency. Greene, Tweed's proprietary AR® thermoplastic material exhibits outstanding wear characteristics in media containing solids.

AR1 offers excellent abrasive resistance as well as chemical resistance approaching that of PTFE. AR1 is rated from ambient to 120°F (49°C). AR1 is easy to machine, and clearance requirements are easily determined. AR1 works well in a variety of pumps in the power industry including those working with circulating water, open and closed cooling water and river water as well as screen wash pumps. AR materials have performance characteristics that exceed traditional technologies such as cutlass rubber, bronze, and carbon materials.

General Information			
Features	Good Abrasion Resistance		
	Good Chemical Resistance		
	Good Impact Resistance		
	Good Wear Resistance		
	Low Friction		
	Machinable		
Uses	Pump Parts		
Appearance	Brown		
Forms	Pellets		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	2.00	g/cm <sup>3</sup>	ASTM D1457
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	65		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1140	MPa	ASTM D638
Tensile Strength (Break)	15.7	MPa	ASTM D4745
Tensile Elongation (Break)	300	%	ASTM D1457
Flexural Modulus	1080	MPa	ASTM D790
Flexural Strength (5.0% Strain)	19.2	MPa	ASTM D790
Compressive Modulus	958	MPa	ASTM D695
Compressive Strength <sup>1</sup>	18.6	MPa	ASTM D695
Thermal	Nominal Value	Unit	Test Method
CLTE - Flow (-18 to 41°C)	1.1E-4	cm/cm/°C	ASTM D696
Service Temperature	16 to 49	°C	
NOTE			
1.	Yield		

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#### Recommended distributors for this material

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