

## Sound Transfer - Coupling Media

Our focus is on highly effective sound transfer through the development of acoustic-capable polymers. These new polymers enable coupling of the ultrasonic sensor to the material under test and provide a layer to couple, seal or optimize energy transfer.

- Industrial dry coupling applications
- Novel wheel probe or delay line
- Water box chamber or barriers
- Sensor covers or optimizing layers
- Sensitivity and resolution targets
- Medical phantom solutions
- Fitted offset layer
- Sheet material for controlled gap
- Bladder designs for compliant membrane
- Low velocity refraction wedge designs

Property	Aqualene™ 300	Aqualene™ 200	ACE™ 400	ACE™ 410	Aqualink™ 100
Hardness, Shore A	58	40	40	42	5
100% modulus, psi	-----	210	220	220	14.9
Tensile strength, psi	120	260	1400	1400	300
Elongation @ break, %	27	140	1200	1200	1100
Tear Str., Die C, pli	-----	20.6	n/a	n/a	50
Attenuation dB/mm @ 5MHz	-0.35	-0.48	-0.5	-0.77	0.4
Sp.Gr.	0.94	0.94	0.92	0.92	0.87
Acoustic Velocity, m/s	1578	1542	1600	1543	1484
Colour	Clear	Clear	Clear/white	Black	Clear Transparent

*Innovation Polymers is ready to make your unique product. Our materials can be customized to achieve success for your demanding inspection requirements. Mist wetting enables minimal couplant application or the material can function dry for carbon fiber layup inspection and other unique applications. Let Innovation Polymers work with your team to achieve your unique inspection solution.*

*Together we will seek novel and visionary approaches*

### **Silicone Product Line:**

*Our new silicone product line offers many favorable properties making them ideal for elevated temperature inspection. Optimized for ultrasonic applications and offering low velocity  $\approx 1000\text{m/s}$  and low attenuation  $\approx 0.5$  to  $1.85$  dB/mm make this line ideal for NDT. Durometer range is Shore A 20 to 50 making it capable of many levels of compliance. Silicone can be produced in almost any shape and is ideal for applications where environmental conditions requires very stable performance. Good performance in radiation and other hostile conditions.*

### **Polyurethane Product Line:**

*The use of the polyurethane polymers for ultrasonic applications extends our product family to address wear and unique applications with specific demands. We have optimized our product for ultrasonic applications such as wheel probes and other NDT application components. The velocity offered includes  $\approx 1600\text{m/s}$  and can extend to  $1680\text{m/s}$ . Wear and operating temperatures are key items we focus upon when customizing your material. Our formulations are optimized for minimal attenuation and a wide range of hardness.*

High temperature ultrasonic applications and extreme wear applications demand special coupling media

## **Custom Properties & Custom Shapes**

Innovation Polymers will work with your team to help develop specific required characteristics for the material you need to couple to or mimic. Ultrasonic properties, hardness and other unique aspects for a wide range of applications can be achieved through collaborative development.

*Other applications and even your problematic application are all of interest to our development team. Our products include tissue mimicking and phantom product development. Consider novel targets such as implanted spheres, tubes or fine wire, to extend your calibration capability. Sensitivity and resolution reference standards should be considered options. If required for your applications we can move the velocity to optimize your matching layer demands.*

### **Contact Us**

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