

WEARPLATES AND MATCHING LAYERS

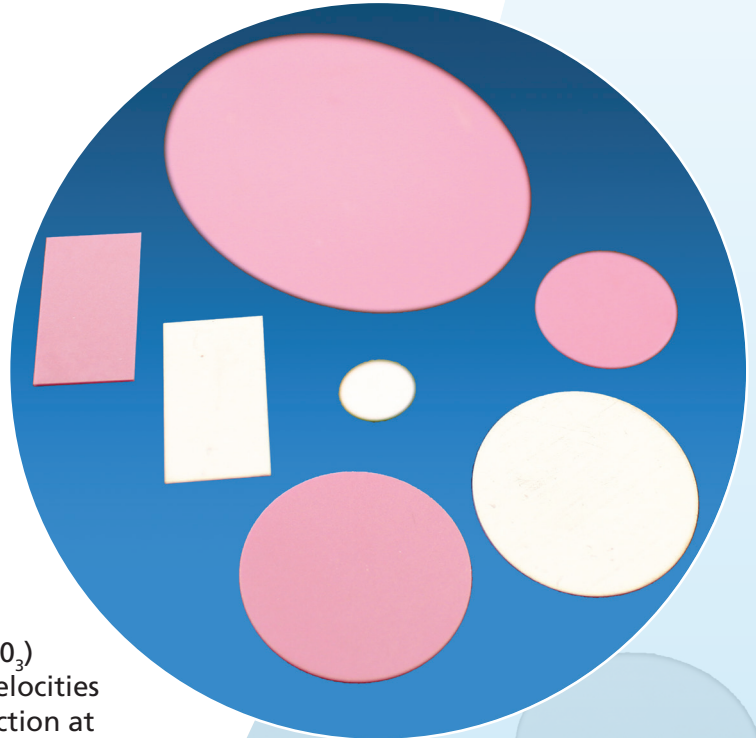
Optimize Ultrasonic Transducer Performance

- Durable Wearplates for NDT Transducers
- $\frac{1}{4} \lambda$ Matching Layer Processing
- Critical Acoustic and Wear Performance

EBL Products offer a selection of white, black or pink alumina wearplate and delay line materials for durable wear faces used in contact type NDT transducers and acoustic emission sensors. Our high purity aluminas (Al_2O_3) features high hardness and extremely high ultrasonic velocities for acoustically negligible impact with high wear protection at frequencies up to 20MHz. These can be provided with fired silver electrodes on one surface to facilitate transducer assembly.

EBL offers precision matching layer processing for NDT transducers, medical imaging transducers, and other ultrasonic devices, which require exceptional bandwidth and sensitivity.

EBL Products has extensive experience in processing engineered matching layer materials to provide efficient energy transfer from most common piezoceramics into low acoustic impedance loads. Our expertise is in processing matching layers requiring uniform ultrasonic velocity and impedance combined with low ultrasonic attenuation. EBL has experience in processing matching layer materials that accommodate single and double quarter wave matching performance. EBL can process matching layers, machined parallel to within 0.0002" (5 micrometers) from 0.005" to 0.250" thick in various shapes and sizes starting at 0.060" to 5.00".



TRANSDUCER WEARPLATE TECHNICAL DATA

MATERIAL PROPERTIES	DENSITY (gm/cm ³)	ACOUSTIC VELOCITY (m/sec)	ACOUSTIC IMPEDENCE (mks rayls)	HARDNESS (knoop/moh)	TYPICAL SURFACE FINISH (μ inch rms)
Pink Alumina, 96% "Hi Pure"	3.65	9,810	approx. 36	2,100/9.0	18
White Alumina, 98% "Hi Pure"	3.64	10,020	approx. 36	2,100/9.0	16
Onyx Black Alumina, 96% "Hi Pure"	3.65	9,850	approx. 36	2,100/9.0	20

MAXIMUM DIAMETER: 1.75" Unplated
1.75" Silver one side
0.005" to 0.200" thick

TOLERANCES: thickness: + .001"
diameter: + .000", -.003"

Specification subject to change without notice.

MATCHING LAYER CAPABILITY

EBL can process supplied matching layer materials per customer supplied drawings within the following dimensional ranges.

GEOMETRIES: disc, rectangle, square, rod, washer

DIMENSIONS AVAILABLE: Size: 0.06" min., 5" max.

THICKNESS AVAILABLE: Size: 0.005" min., .500" max.
All layers machined parallel within .0002".

DIAMETER OR RECTANGULAR TOLERANCES: + .000", - .003"

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