ARLON Microwave Materials

Product Listing and Typical Properties

Product	Dielectric Constant	Dissipation Factor	Type IPC-4103	Comments
CLTE Product Family - Highest Performance and Greatest Phase Stability				
CLTE-XT	2.94 ± 0.03	0.0012	/06	"Best-In-Class" Product. Lowest Insertion Loss, Phase Stability, Registration Stability
CLTE-AT	3.00 ± 0.04	0.0013	/06	Commercially Priced, High Volume, Phase Stable Multi-Layer Material. Standardized Offerings
CLTE	2.96	0.0023	/06	Excellent Dk Stability vs. Temperature - Phase Stable. Low CTE and registration consistency
Highest Dk Stability vs. Temperature: Critical for Phase Sensitive Applications. Very Low CTE Values for Multi-Layer Reliability. "Best-in-Class" Dimensional Stability Reinforced PTFE with microdispersed Ceramic. High Performance Laminates for Avionics, Radars, EW, SIGINT, CNI and Phase Sensitive Filters				
Thermally Conductive, Thermally Phase Stable Microwave Laminates				
TC350	3.50 ± 0.05	0.0020	/09, /16	"Best-In-Class" 1.03 W/mK Thermal Conductivity, Lowest CTE. Excellent Phase Stability
TC600	6.15 ± 0.15	0.0020	/07	"Best-In-Class" 1.1 W/mK Thermal Conductivity (z-direction), 1.4 W/mK (x,y). Excellent Phase Stability
Excellent for Heat Dissipation, reduces Junction Temperatures, improves device and solder joint reliability. Excellent for Power Amplifiers and Antennas				
Next Generation of Lower Loss Materials, Available with PIM+ Technology				
AD255A	2.55 ± 0.04	0.0015	/02	16.7% Lower Loss and Tighter Tolerance than Legacy AD255
AD260A	2.60 ± 0.04	0.0018	N/A	Lower Loss than Legacy AD260 Product and Competitive Offerings. Dk of 2.60 ± 0.03 Available
AD300A	3.00 ± 0.04	0.0020	/09	Tighter Dk Tolerance. Lower Loss than AD300
AD320A	3.20 ± 0.04	0.0032	/09	Lower Loss than Legacy AD320 Product
Not available below 0.020". Typically, 0.030", 0.031", 0.040", 0.060", 0.062"				
** Origonal AD Series Below*				
PTFE and Microdispersed Ceramic reinforced with Woven Glass Reinforcement for Dimensional Stability				
AD350A	3.50 ± 0.05	0.003	/09, /16	Tighter Tolerance than AD350. TC350 will offer much higher performance
AD410	4.10	0.003	/16	Low Loss, Circuit Miniaturization, High Antenna Gain. Tightest Dk Tolerance in Industry
AD430	4.30	0.003	/16	Low Loss, Circuit Miniaturization, High Antenna Gain, Tightest Dk Tolerance in Industry
AD450	4.50	0.0035	/16	Low Loss, Circuit Miniaturization, High Antenna Gain
AD1000	10.20	0.0023	/08	Lowest Insertion Loss in its Class, Mechanically Robust, In-Panel Dk Consistency. Low Absorption
Traditional Products - High PTFE to Glass Ratio, Lowest Loss Woven Fiberglass Reinforced PTFE - Unidirectional Plies				
DiClad 522	2.40 - 2.60 ± 0.05	0.001	GT /01	per old MIL GT Spec - Tested at 1 MHz
DiClad 527	2.40 - 2.60 ± 0.04	0.0018	GX /02	per old MIL GX Spec - Tested at 10 GHz
DiClad 870	2.33 ± 0.02	0.0013	GY /05	per old MIL GY Spec - Tested at 10 GHz
DiClad 880	2.17, 2.20 ± 0.02	0.0009	GY /05	Lowest Loss Product, Highest PTFE Resin Content
				** Mil-S-13949 discontinued*
Traditional Products - High PTFE to Glass Ratio, Lowest Loss Woven Fiberglass Reinforced PTFE - Crossplied				
CuClad 250GT	2.40 - 2.60 ± 0.05	0.001	GT /01	per old MIL GT Spec - Tested at 1 MHz; in-plane isotropy
CuClad 250GX	2.40 - 2.60 ± 0.04	0.0018	GX /02	per old MIL GX Spec - Tested at 10 GHz; in-plane isotropy
CuClad 233LX	2.33 ± 0.02	0.0013	GY /05	per old MIL GY Spec - Tested at 10 GHz; in-plane isotropy
CuClad 217LX	2.17, 2.20 ± 0.02	0.0009	GY /05	Lowest Loss Product, Highest PTFE Resin Content
				** Mil-S-13949 discontinued*
Traditional Products - High PTFE to Glass Ratio, Low Loss Non-Woven Reinforced PTFE				
IsoClad 917	2.17 ± 0.04	0.0013	GP, GR /03, 04	Conformal Material (i.e. wrappable or formed antennas)
IsoClad 933	2.33 ± 0.04	0.0016	GP, GR /03, 04	Conformal Material (i.e. wrappable or formed antennas)
				** Mil-S-13949 discontinued*
Ultra Thin Laminates with Higher Dielectric Constant				
AD5	5.10	0.003	/16	Ultra Thin (0.003"), High Dielectric Constant (5.1)
AD10	10.20	0.005	N/A	Ultra Thin (0.0024"), High Dielectric Constant (10.2)
Ceramic Hydrocarbon Thermoset Laminates and Pre-Pregs				
25N	3.38 ± 0.06	0.0025	/10	Tested at 10GHz, Thermoset eases Multilayer Fabrication
25FR	3.58 ± 0.06	0.0035	/11	Tested at 10GHz, UL94V-0, Thermoset eases Multilayer Fabrication
Reduced Passive Intermodulation (PIM) Laminates				
DiClad 880-PIM	2.17, 2.20 ± 0.02	0.0009	GY /05	Tested at 10GHz; PIM < -155 dBc
AD Series PIM	2.50 - 3.50	0.002 -0.003	/09	Tested at 10GHz; PIM < -155 dBc
				AD "A" Series PIM+ Technology available from 2.55 to 3.20 (see above)
Legacy, Low Cost Commercial Based Laminates. Next Generation Alternatives may be available (see above or inquire for details)				
AD250	2.50	0.0018	/02	Tested at 10GHz for Electrical Conformance and Loss Tangent
AD255	2.55	0.0018	/02	Tested at 10GHz for Electrical Conformance; AD255A provides 16.7% lower loss
AD270	2.70	0.0023	/09	Tested at 10GHz for Electrical Conformance
AD320	3.20	0.0038	/09	Tested at 10GHz for Electrical Conformance; AD320A provides 16.7% lower loss
AD350	3.50	0.003	/09	Legacy Product; New Offering will be TC350
AD600	6.15	0.003	/07	Legacy Product. TC600 offers better performance at similiar price
AR1000	9.80	0.003	/08	Legacy 9.8 Dielectric Constant Product. AD1000 offers lower loss and lower pricing
Thermoplastic Bonding Films				
CuClad 6250	2.32 ± 0.10	0.0013	/15	0.0015" Lower Temperature Bonding Film
CuClad 6700	2.35 ± 0.10	0.0025	/15	0.0015" and 0.003" Fluoropolymer Film
CLTE-P	2.94	0.0025	/06	0.0032" Thick; Ideal for CLTE. CLTE-XT or LC-CLTE

Master sheet sizes are 36" x 36", 36" x 48", 48" x 54" and 36" x 72". Check for availability by product line.

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