

# MATERIALS ABBREVIATIONS LEGEND

## CONDUCTORS & BRAID MATERIALS

AL	Aluminum
BC	Bare Copper
BeCu	Beryllium-Copper Alloy 172
BCCAI	Bare Copper Clad Aluminum
CCS	Bare Copper Clad Steel
GS	Galvanized Steel
HR	High Resistance Wire
MW	Magnet Wire
NC	Nickel Covered Copper
SA	Silver Covered Alloy
SC	Silver Covered Copper
SCBeCu	Silver Covered Beryllium Copper
SCCadBr	Silver Covered Cadmium Bronze
SCCAI	Silver Covered Copper Clad Aluminum
S CCS	Silver Covered Copper Clad Steel
SNCCS	Silver Covered Nickel Covered Copper Clad Steel
SCS	Silver Covered Copper Strip
TC	Tinned Copper
TCCS	Tinned Copper Clad Steel

## DIELECTRIC MATERIALS

PE	Solid Low Density Polyethylene
PTFE	Solid Polytetrafluoroethylene
LDTFE	Low Density PTFE
Foam PE	Gas Injected Foam PE
FEP	Solid Fluorinated Ethylene Propylene
CPT	Conductive PTFE
CPE	Conductive Polyethylene (Type A-5 per MIL-C-17)
Rubber	per MIL-C-17 (obsolete)
MGO	Magnesium Oxide

## INTERLAYER MATERIALS

PE	Solid Polyethylene
PTFE	Solid Polytetrafluoroethylene
MY	Polyester
KP	Polyimide
ALMY	Aluminum-Polyester Laminate
ALKP	Aluminum-Polyimide Laminate
CPC	Copper-Polyester-Copper Laminate

## JACKET MATERIALS

E-CTFE	Ethylene Chlorotrifluoroethylene Type XI per MIL-C-17
ETFE	Ethylene Tetrafluoroethylene Copolymer Type X per MIL-C-17
FEP	Fluorinated Ethylene Propylene Type IX per MIN-C-17
FG Braid	Fiberglass; Impregnated Type V per MIL-C-17
PE	Clear Polyethylene Type III per MIL-C-17
LS/LT	Low Smoke/Low Toxicity (XLPE)
PE	Polyethylene, black HMW Type IIIA per MIL-C-17
PFA	Perfluoroalkoxy Type XIII per MIL-C-17
PTFE	Polytetrafluoroethylene Type VIIA per MIL-C-17
PUR	Polyurethane, black Type XII per MIL-C-17
PVC-I	Polyvinyl Chloride, black (contaminating) Type 1 per MIL-C-17
PVC-II	Polyvinyl Chloride, grey (non-contaminating) Type II per MIL-C-17
PVC-IIA	Polyvinyl Chloride, black (non-contaminating) Type IIA per MIL-C-17
Rubber	Per MIL-C-17 (obsolete)
SIL/DAC	Dacron Braid over Silicone Rubber Type VI per MIL-C-17
TPE	Thermo Plastic Elastomer
XLPE	Crosslinked Polyolefin Type XIV per MIL-C-17

# COAXIAL CABLE EQUATIONS LEGEND

Symbol	Definition	Units
$\alpha$	= Attenuation in dB/100 feet	dB/100 feet
$\epsilon$	= Dielectric constant	
$\Gamma$	= Reflection coefficient	
$\phi$	= Electrical length	degrees
<b>C</b>	= capacitance	pF/foot
<b>L</b>	= Inductance	uH/foot
<b>Z<sub>o</sub></b>	= Impedance	ohms
<b>V<sub>p</sub></b>	= Velocity of propagation	%
<b>df</b>	= Dissipation factor	
<b>T<sub>d</sub></b>	= Time delay	nS/foot
<b>F</b>	= Frequency	MHz
<b>PTC</b>	= Phase temperature coefficient	ppm/C
$\Delta T$	= Change in temperature (t <sub>2</sub> t <sub>0</sub> t <sub>1</sub> )	C
<b>LTH</b>	= Length	feet
$\Delta\phi$	= Change in electrical length (t <sub>1</sub> to t <sub>2</sub> )	degrees
<b>D</b>	= dielectric diameter	inches
<b>d</b>	= center conductor diameter	inches
<b>ds</b>	= Braid wire size	inches
<b>Fbd</b>	= Braid factor	

Symbol	Definition	Units
<b>F<sub>co</sub></b>	= Cutoff frequency	GHz
<b>C</b>	= Braid carriers	
<b>N</b>	= Braid ends per carrier	
<b>t</b>	= Flat strip thickness	inches
<b>w</b>	= Flat strip width	inches
<b>SRL</b>	= Return loss	dB
<b>VSWR</b>	= Voltage standing wave ratio	
<b>FWD</b>	= Forward power	dB
<b>RFL</b>	= Reflected power	dB
<b>MML</b>	= Mismatch loss	dB
<b>ME</b>	= Match efficiency	%
<b>k<sub>s</sub></b>	= 1.0 for solid center conductor = 0.939 for 7 strand center conductor = 0.97 for 19 strand center conductor	
<b>log</b>	= logarithm to base 10	
<b>ln</b>	= logarithm to base e	
<b>k<sub>1</sub></b>	= resistive loss constant	
<b>k<sub>2</sub></b>	= dielectric loss constant	