

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
SCCS	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 (MgO)

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	Symbol	Definition	Units
α	= Attenuation in dB/100 feet	dB/100 feet	Fco	= Cutoff frequency	GHz
ϵ	= Dielectric constant		C	= Braid carriers	
Γ	= Reflection coefficient		N	= Braid ends per carrier	
ϕ	= Electrical length	degrees	t	= Flat strip thickness	inches
C	= capacitance	pF/foot	w	= Flat strip width	inches
L	= Inductance	uH/foot	SRL	= Return loss	dB
Zo	= Impedance	ohms	VSWR	= Voltage standing wave ratio	
Vp	= Velocity of propagation	%	FWD	= Forward power	dB
df	= Dissipation factor		RFL	= Reflected power	dB
Td	= Time delay	nS/foot	MML	= Mismatch loss	dB
F	= Frequency	MHz	ME	= Match efficiency	%
PTC	= Phase temperature coefficient	ppm/C	k_s	= 1.0 for solid center conductor	
ΔT	= Change in temperature (t2 t0 t1)	C		= 0.939 for 7 strand center conductor	
LTH	= Length	feet		= 0.97 for 19 strand center conductor	
$\Delta\phi$	= Change in electrical length (t1 to t2)	degrees	log	= logarithm to base 10	
D	= dielectric diameter	inches	ln	= logarithm to base e	
d	= center conductor diameter	inches	k₁	= resistive loss constant	
ds	= Braid wire size	inches	k₂	= dielectric loss constant	
Fbd	= Braid factor				