Philtec Application Note

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Temperature Limits

SENSOR TIPS

Standard sensor tips are constructed with glass fibers and stainless steel housings.

Cryogenic to 200°C continuous 300°C intermittent	Standard, most models
250°C continuous to 300°C intermittent	Option T8 High Temperature Epoxy
350°C continuous to 400°C intermittent	Option T9 High Temperature Adhesive
900°F (482°C)	Option T10 No Epoxy, Mechanically Bonded Fibers
800°C continuous	Option T10F, Fused-End Quartz Fiber

FIBEROPTIC CABLE JACKETS

Standard sensor cables use glass fibers with a protective jacket. The jacket materials limit the temperature range of the cables as shown below.

TEMPERATURE LIMITS OF CABLE JACKETS

Standard	***PVC/ Steel Monocoil.*** Good general purpose jacket.	+10 to +107°C
C1	***Interlocking Stainless Steel Hose.*** Provides high strength	-150° to +800°C
C2	***Silicone-Fiberglass/ Steel Monocoil.*** Flexible, radiation resistant	-75 to +220°C
C3	***Silicone Coated Fiberglass***. Non-metallic, Flexible, radiation resistant	-75 to +220°C
C5	***PVC Over SS Interlock.*** Flexible. Does not stretch. Resists lateral pressure, twisting & pulling, withstands repeated bending,	+10 to +105°C
C6	***Convoluted PTFE***. Semi-crush proof, good flexibility, vapor barrier	-270 to +260°C
C7	***PTFE Tubing***. MRI, EMF & vacuum compatible. Poor flexibility, provides vapor barrier protection.	-270 to +260°C
C8	***PVC Only***. Good flexibility, no crush resistance, MRI & EMF compatible	+10 to +105°C
C9	***Annealed SS Tubing (semi-rigid)*** Provides vapor barrier protection, maximum strength, widest temperature range. Has very poor flexibility.	-150° to +800°C
C11	***Thin Wall Polyolefin***. Semi-flexible vapor barrier, no crush resistance	-55 to +150°C
C12	***Thin Wall Polyolefin over SS Interlok***. Flexible vapor barrier with good crush resistance...	-55 to +150°C
C13	***Furcation Tubing, PVC/Kevlar/PTFE*** High tensile strength, light crush resistance. Good for small diameter fiber models such as D20, RC19	+10 to +85°C

ELECTRONICS

Analog Output Amplifiers - 0°C to 70°C
Analog Amplifiers with DPM - 0°C to 50°C
Digital Amplifiers - 0°C to 50°C