

Amphenol® **RF**

PFAS-FREE BNC RF INTERCONNECT

Amphenol RF offers eco-friendly options with enhanced performance as an alternative for products that currently utilize a Teflon insulator, which is a PFAS material commonly referred to as a forever chemical. These PFAS-free connectors and adapters are electrically identical to existing parts and are ideal for applications that require strength, high-temperature resistance and low thermal deformation in demanding environments.

PFAS-free RF interconnect feature PEEK insulators and are designed specifically for cable types that are likewise free of PTFE for a complete solution that is free of potentially harmful materials. The entire product line has undergone extensive electrical testing to ensure that these connectors meet the high standard of performance set by Amphenol RF.

PRODUCTS

CONNECTORS



031-7113
BNC Straight Plug
RG-58



031-7098
BNC Edge Mount Jack
PCB Jack

ADAPTERS



031-7096
BNC Straight Plug to
BNC Plug



031-7097
BNC Straight Bulkhead
Jack to BNC Jack

BNC Connectors are a compact, miniature RF interface designed with a bayonet coupling mechanism to provide secure, reliable signal transmission. Popular for their ease of installation and dependable performance up to 12 GHz, BNC connectors are widely used in applications such as professional video equipment, CCTV security systems and test equipment.

FEATURES AND BENEFITS

- Drop-in replacement with similar outer body dimensions
- Standardized interface
- Improved thermal properties
- Minimal visual differences
- Comparable or improved performance

PEEK VS PTFE COMPARISON CHART

Property	PEEK (Polyether Ether Ketone)	PTFE (Polytetrafluoroethylene)	Engineer-Focused Notes
Dielectric Constant (ϵ_r)	3.2	2	PEEK designs have optimal return loss performance in the same form factor as PTFE designs, despite having a higher dielectric constant than PTFE.
Dissipation Factor (1 MHz)	0.001–0.003	0.0002–0.0005	PEEK designs have optimal insertion loss performance in the same form factor as PTFE designs, despite having a higher dissipation factor than PTFE.
Deflection Temperature (264 PSI)	320 °F	132 °F	Both high-temp resistant, but PEEK maintains mechanical strength at high temps.
Coefficeint of Linear Thermal Expansion	2.5×10^{-5} in/in/°F	7.5×10^{-5} in/in/°F	PEEK experiences one third-the expansion of PTFE over the same temperature increase, improving thermal stability and excellent for applications of brief heat (such as a reflow solder process).
Chemical Resistance	Excellent	Excellent	Comparable chemical resistance; PEEK has broader mechanical performance under harsh conditions.
Moisture Absorption (24 Hours per ASTM D570)	<0.02%	<0.01%	Minimal but stable absorption; retains mechanical and dielectric properties under humidity.