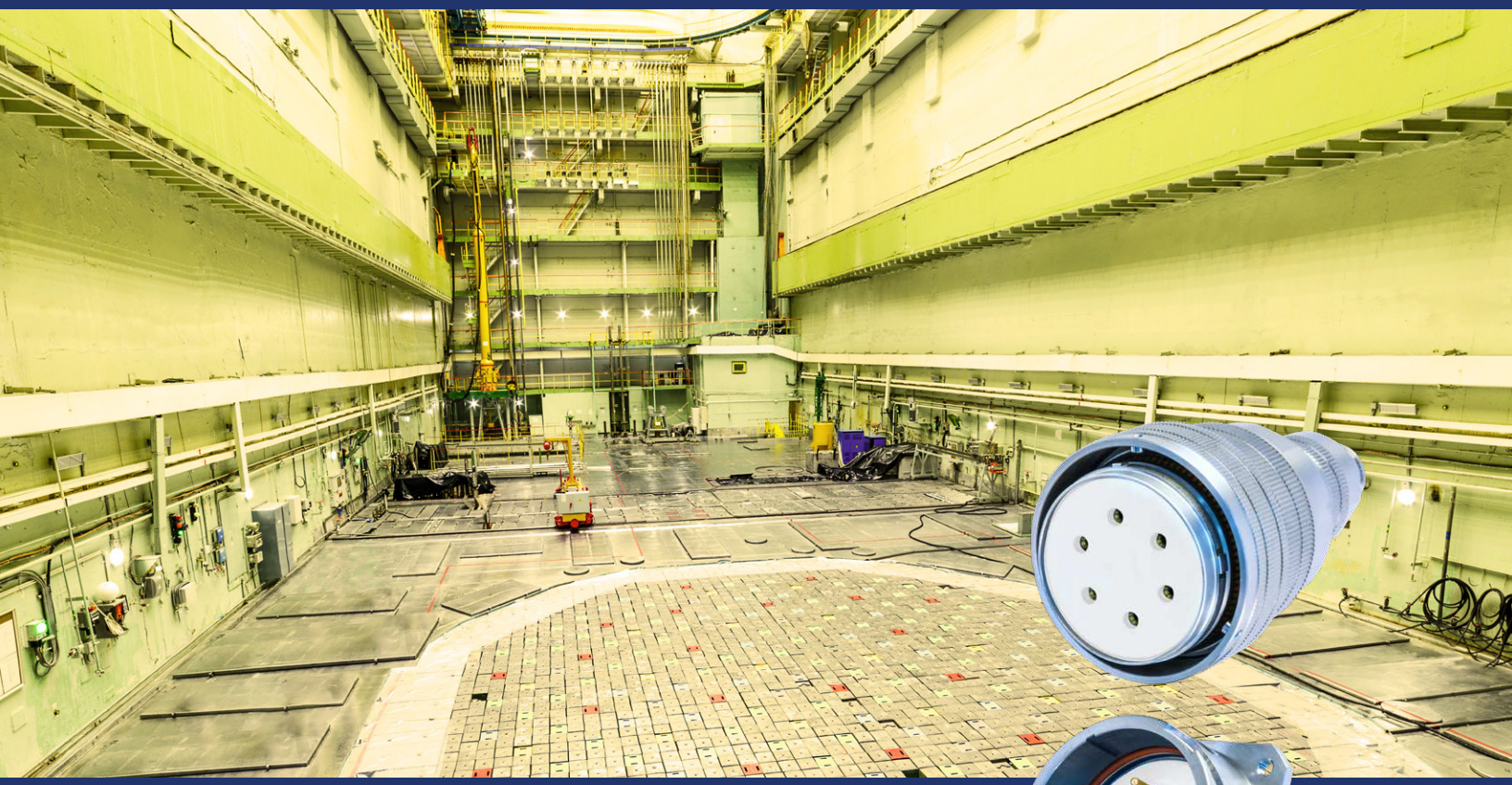
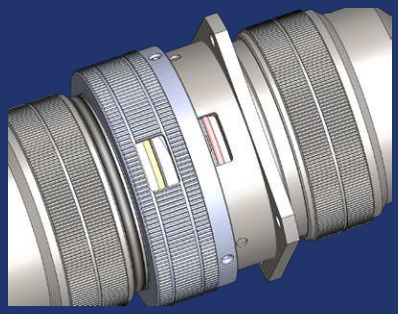
OPTIMIZED
FOR USE WITH
MIL-STAR™
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

SUPER NG

SuperNG reverse-bayonet connectors for nuclear-industry Zone 1E Applications



The Glenair SuperNG series is designed to exceed the most stringent Gen III zone 1E plant LOCA qualification criteria, including those requiring long-term submersion and a 60 year plus installed life. SuperNG quick connect connectors utilize potted machined stainless steel shells on both plug and receptacle, with triple keyways and a precise reverse-bayonet coupling system, designed to ensure simple and accurate mating alignment by double-gloved technicians during outage servicing. Precision-machined non-organic ceramic inserts guarantee lifetime contact alignment and maximum temperature and radiation resistance. Double peripheral seals are formulated from a Glenair signature EPDM material specifically designed for high radiation and high temperature zone 1E applications. SuperNG offers full EMC compliance to the most severe Gen III plant requirements.



Signature double O-ring peripheral seal

SuperNG connectors are available in a broad range of shell sizes and contact configurations with industry-standard NPT threads for device mounting of receptacles to pressure transducers, solenoids, and limit switches, as well as configurations for all other plant I&C and small to medium motor applications, including CRDM, DRPI, and fan RTDs and motors.

- **Machined / passivated stainless steel shells**
- **Stainless steel backshells for backpotting**
- **NPT threaded plugs and receptacles**
- **Radiation-resistant inserts, gaskets, seals, O-rings**
- **Standard signal, power, or thermocouple contacts**
- **Triple polarization keys and keyways**

NUCLEAR-GRADE

SuperNG Connectors and Cables for Stringent Gen III Containment Area Applications

Double peripheral sealing

Glenair SuperNG connectors are optimized for containment area applications in modern Gen III nuclear plants that require performance to the industry's most severe requirements, including high radiation resistance, high-temperature tolerance, fluid/chemical resistance, and corrosion resistance. Non-organic ceramic inserts guarantee radiation and temperature resistance for a 60+ year installed life, and custom-formulated EPDM O-rings ensure maximum performance and long-term compression set resistance. All components are manufactured in-house under our 10CFR50 Appendix B audited nuclear quality program.

Test Phase	Qualification Parameter Levels
Functional Tests (repeated between test phases)	Insulation Resistance (500VDC) Contact Resistance (1 amp applied current) Dielectric Withstand Voltage (2200VAC/60 sec) Visual Inspection
Thermal Aging	Arrhenius Methodology for 60 Year Qualified Life O-Rings replaced at 10 years or each mating cycle QL includes Normal + Abnormal environment
Thermal Cycle Aging	100 Cycles 70°F to 175°F (2 hour dwell times) 15Cycles 70°F to 250°F (2 hour dwell times)
Connection Cycling	550 Connect/Disconnect Cycles unpowered
Radiation Aging and Accident Radiation	275 Mega-Rads (Gamma + Beta radiation) @ < 1.0 Mrads/hr
Vibration Aging	90 min/axis (X,Y,Z) @ 0.75g from 5 – 100 – 5 Hz
Seismic Qualification	IEEE 344 (RMF) & IEEE 382 (RIM) testing RMF: 5 OBE = 1 SSE, 1-100HZ, ZPA >12g RIM: Res Search, 2 OBE + 1SSE sine motion (IEEE382) Powered & Monitored for chatter/continuity & shorting >1 msec
Containment Pressure	75 psig air for 24 hours at 24°C Powered & Monitored for continuity and shorting
Accident Qualification	Steam Test with, Two Transients, RT to 435°F/75 psig in 20 sec Transient 1: RT to 325°F in <5 sec, Reach 435 in 20 sec, 2 hrs Transient 2: RT to 325°F in <5 sec, Reach 435 in 20 sec, Chemical Spray (pH max 11.0), 27 hours of spray, Once temp cools to 185°F, flood chamber with chem spray solution and leae test specimens submerged for 1 year. Powered and Monitored continuously for continuity and shorting

SuperNG mated pairs are available as qualified prewired and potted assemblies with customizable cable length on the field side, as well as length of individual conductors on the device side for specific application requirements.

GLENAIR SUPERNG ZONE 1 INTERCONNECT APPLICATION SUPPORT

SuperNG is optimized for equipment applications in containment area Zone 1E including:

- **Valve control/monitoring**
- **Pressure transducers**
- **Control rod drive mechanisms**
- **Rod position indicators**
- **Pressure transmitters**
- **Solenoids**
- **Hydrogen detectors**
- **Fuel handling equipment**

S T U V W X Y Z