



AMP NETCONNECT EtherSeal Qualification Test Summary

The below table supplies a summary of the AMP NETCONNECT EtherSeal product line testing as performed and reported in Tyco Electronics Product Specification 108-2187 and Qualification Test Report 501-595.

Test Description	Requirement	Procedure	Results
Examination of product.	Meets requirements of product drawing.	Visual, dimensional and functional per applicable quality inspection plan.	No evidence of physical damage was observed.
ELECTRICAL			
Contact resistance	ΔR 20 milliohms maximum	<i>IEC-60512-2-1</i> . Subject mated plug and terminated jack to 20 millivolts maximum open circuit voltage at 100 milliamperes maximum.	Change in resistance (ΔR) of less than 20 milliohms after testing.
Insulation resistance.	500 megohms minimum.	<i>IEC-60512-3-1</i> . Test voltage of 100 ± 15 volts DC, Method A. Test between adjacent contacts of mated plug and terminated jack.	All insulation resistance measurements were greater than 500 megohms.
Voltage proof.	1 minute hold with no breakdown or flashover.	<i>IEC-60512-4-1</i> . 1000 volts AC at sea level. Test between adjacent contacts of mated plug and jack.	No dielectric breakdown or flashover occurred.
MECHANICAL			
Vibration.	No discontinuity of 10 microseconds or longer duration.	<i>IEC-60512-6-4</i> . Subject mated specimens to sinusoidal vibration, 10-500-10 Hz, traversed logarithmically at a rate of 1 octave per minute, at an amplitude of 0.3 mm peak-to-peak, or 5 g's (gravity units), whichever is less, for 2 hours in each of 3 mutually perpendicular axes (total 6 hours of exposure).	No discontinuities greater than 10 microseconds were detected during vibration testing. No cracks, breaks, or loose parts were visible on the specimens.
Mechanical shock.	No discontinuity of 10 microseconds or longer duration.	<i>IEC-60512-6-3</i> . Subject mated specimens to 30 g's, half-sine shock pulses of 11 milliseconds duration. 3 shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks.	No discontinuities greater than 10 microseconds were detected during vibration testing. No cracks, breaks, or loose parts were visible on the specimens.
Insertion and withdrawal forces.	116 N maximum.	<i>EC-60512-13b</i> .	All insertion values were less than 116 N maximum which included the locking mechanism. All withdrawal values were less than 116 N maximum.
Effectiveness of coupling device.	50 N for 60 ± 5 seconds.	<i>IEC-60512-15f</i> . Rate of load application shall be 44.5 N per second max.	The coupling did not loosen or dislodge from the plug body.
Mechanical operation,	See Note.	<i>IEC-60512-9a</i> . N/2 operations, speed 10 mm per second maximum, rest 5 seconds (unmated) with locking device inoperative. N=750.	No physical damage occurred as a result of mating and unmating the specimens 750 times.

ENVIRONMENTAL			
Water jet spray.	IP 65, No leakage on contacts.	<i>IEC-60529-14.2.5.</i>	No water penetration was noted.
Immersion.	IP 67, no leakage on contacts.	<i>IEC-60529-14.2.7.</i> 1 meter for 30 minutes.	Units showed no signs of damage or degradation. No signs of water infiltration.
Solid foreign objects.	No deposit of dust observable inside enclosure.	<i>IEC-60529-13.4 and 13.6.</i>	No visible signs of dust infiltration.
Access to hazardous parts.	Adequate clearance between access probe and hazardous parts.	<i>IEC-60529-12.2.</i>	The 1.0 mm probe did not pass through any openings on the specimens.
Rapid change of temperature.	See Note.	-40 to 85/C, mated specimens, 25 cycles, t1 = 30 minutes, recovery time 2 hours.	No evidence of physical damage was visible
Climatic damp heat.	See Note.	21 cycles low temperature 25/C, high temperature 85/C, 5 cold subcycle -10/ C, humidity 93%, half specimens mated, half specimens unmated.	No evidence of physical damage was visible
Flowing gas corrosion test.	See Note.	<i>IEC 68-2-60, 1995-12, Method 2</i> exposure. Half specimens mated, half specimens unmated, 4 days.	No evidence of physical damage was visible
Electrical load and temperature.	See Note.	<i>IEC-60512-5-9b</i> 500 hours at ambient temperature of 85/C; 0.5 ampere applied to 5 specimens, 5 specimens no current.	No evidence of physical damage was visible
Prolonged submersion.	See Note.	<i>NEMA 250, 5.12.</i>	No signs of damage or degradation. No signs of water infiltration.
Salt spray.	See Note.	<i>EIA-364-26, Condition C.</i> Expose specimens to 5% spray for 500 hours.	No evidence of physical damage was visible

Note: Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification and Requalification Test Sequence

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