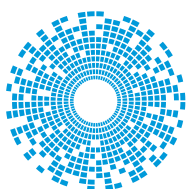




Space Rated Connectors



cinch
CONNECTIVITY SOLUTIONS
a bel group



About Bel

Bel is a publicly traded company that has been operated by the same family for over 65 years. Our history of organic growth and acquisitions have broadened our product portfolio. This has established Bel as a world leader with a diverse offering of power, protection and interconnect products. We design and manufacture these products which are primarily used in the networking, telecommunications, computing, military, aerospace, transportation and broadcasting industries. Bel's portfolio of products also finds application in the automotive, medical and consumer electronics markets.

About Cinch Connectivity Solutions

For over 100 years, Cinch Connectivity Solutions has manufactured high quality and reliable high performance connectors and cable assemblies. Cinch is recognized as a world class connectivity supplier of RF, fiber optic, hybrid, microwave components, circular, d-subminiatures, modular rectangular, electronic enclosures and cable assemblies. Cinch provides innovative solutions to the military, commercial aerospace, networking, telecommunication, test and measurement, oil and gas and other harsh environment industries. We aim to exceed our customers' expectations and continually offer innovative solutions to the rapidly changing needs of the markets and customers we serve.

Along with our parent company, Bel Fuse Inc., our mission is to provide products and services using established quality standards and to meet our customer expectations. To fulfill this objective, we strive to produce components and assemblies that embody optimum levels of reliability and performance in their design, manufacture, and delivery. Cinch Connectivity Solutions has consistently proven to be a valuable supplier to the foremost companies in its chosen industries by developing cost effective solutions for the challenges of new product development.

Space Rated Connectors and Accessories

Trompeter has a long and proud history of servicing space applications. Applications include communications satellites, Navigation (GPS) satellites, and even the Mars Rover. Each of these applications share the common requirement of world class reliability in these very demanding conditions.

When placed in a vacuum and subjected to heat, non-metal materials are subject to outgassing, and some of its constituents are volatilized. One of the bi-products of outgassing is that the material loses a portion of its mass (total mass loss: TML). Another effect is that the outgassed matter will condense and collect on a surface. This material is known as Collectable Volatile Condensable Material (CVCVM).

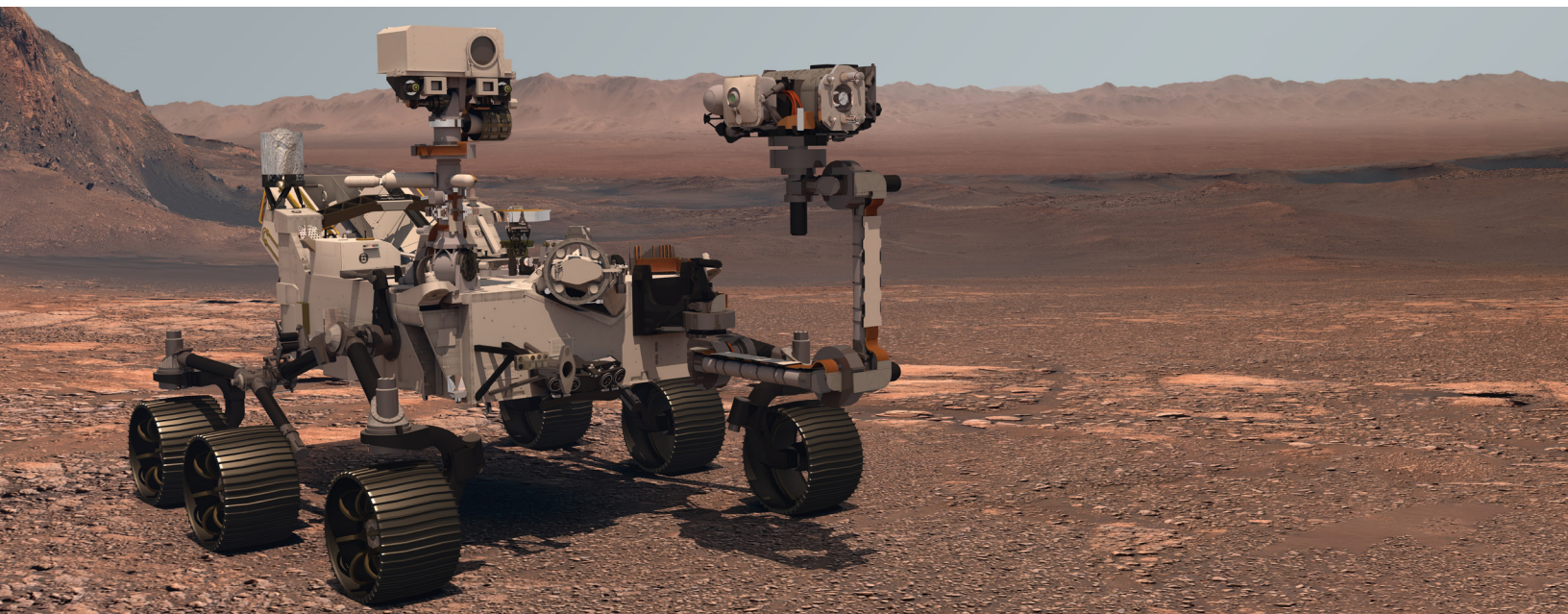
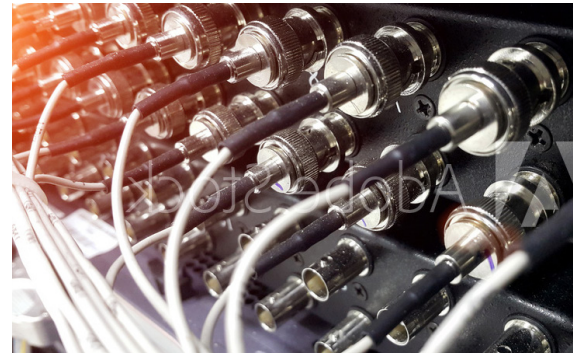
These phenomena can lead to complications and even equipment failure. Outgassed materials are nothing but contaminants, and Trompeter mitigates these effects through proper material selection and design practices.

Trompeter tests these conditions using ASTM E595, and the limits are:
Total Mass Loss (TML): less than 1.0%
Collected Volatile Condensed Materials (CVCVM): less than 0.10%



Patching Panels

Patching systems are often implemented in ground based systems. This architecture offers maximum flexibility. Trompeter is a key supplier of patching panels and the required patch cables. Panels can be fully loaded with the desired patch jacks.



Testing Procedures

Trompeter's space qualified products are manufactured to individual specifications and testing, as per the below example:

In-Process Inspections

Test Name	Sample Size
Visual and Mechanical Dimensions	100%
Plating Thickness	5 pcs
Solderability	5 pcs
Plating Adhesion	5 pcs
Contact Captivation	100%
Rotational Contact Retention	6 pcs
Axial Contact Retention	6 pcs
Proof Torque	100%
Contact Engaging Force	100%
Contact Separating Force	100%

Group A Inspections

Group A Inspection shall consist of the inspections specified in the table, performed in the order shown. Any defective units found shall not be delivered.

Test Name	Method	Sample Size
3.1.1 Visual and Mechanical Inspection	4.1	100%
3.1.2 Hermetic Seal*	4.2	100%
3.1.3 Leakage*	4.3	100%
3.1.4 Dielectric Withstanding Voltage	4.4	100%

* Pressurized connectors only

Group B Inspections

Group B Inspection shall consist of the inspections specified in the table, performed in the order shown. Group B units shall be randomly selected once the lot has passed Group A Inspection. Any defects discovered during Group B tests shall be screened from the entirety of the lot.

Test Name	Method	Sample Size
3.2.1 Outgassing Verification	4.5	Dependent on lot size
3.2.1 Force to Engage/Disengage	4.6	Dependent on lot size
3.2.2 Coupling Proof Torque*	4.7	Dependent on lot size
3.2.3 Mating Characteristics	4.8	Dependent on lot size
3.2.4 Permeability of Nonmagnetic Materials	4.9	
3.2.5 Insulation Resistance	4.10	

* Threaded connectors only

Group C Inspections

Test Name	Sample Size
Vibration	Defined by Customer
Shock	Defined by Customer
Moisture Resistance	Defined by Customer
Electrical Characteristics	Defined by Customer
Resistance to Solvents	Defined by Customer

Ordering Information

TTM Series (Subminiature Threaded Connectors)

Commercial Part Number	Description	Vacuum Ready Part Number	Space Ready Part Number
PLR3155AC/S SPECIAL HEX CPLG	Plug	305-1243	5-0097
BJ3150/S	Bulkhead Jack	305-1228	5-0002
TNTM1/TNTMS1 W/ 2W resistor		305-1580	5-0003
CJ3150AC	Cable Jack	305-1497	5-0013
BJ3157	Bulkhead Jack	305-1227	5-0014
PL3155AC/S	Plug	305-1370	5-0015
TNTM1/TNTMS1		305-1469	5-0029
PL155	Plug	305-1609	5-0036
BJ3158	Bulkhead Jack	305-1532	5-0037
PL3155AC/SPL, HEX COUPLING	Plug		5-0045
PLR3155AC	Plug		5-0050
CJ3150	Cable Jack		5-0056
BJ3159	Bulkhead Jack		5-0057
TNTM1, SHIELD COMMON			5-0060
BJ3150HS/S	Bulkhead Jack	305-1486	5-0071
TNTMF1 SPECIAL			5-0074
TNTMF1			5-0075
CBJ3157 SPECIAL LONG LEG			5-0076
BJ3157F SPECIAL BeCu SHIELD	Bulkhead Jack		5-0082
CBJ3157		305-1649	5-0084
CBJ3157		305-1487	5-0084
CBJ3157 SPECIAL SHORT LEG			5-0084
BJ3155	Bulkhead Jack	305-1627	5-0089
CBBJR3159 SPECIAL	Circuit Board Bulkhead Jack		5-0094
BJ3157F SPECIAL (305-0960)	Bulkhead Jack		5-0095
TNTMF1 W/ 3 RESISTORS			5-0098
BJ3154	Bulkhead Jack		5-0099
BJ3154AC	Bulkhead Jack		5-0100
CBJ3157 SPECIAL (5-0076)			5-0102
CBJ3157 SPECIAL (5-0084)			5-0103

TRT Series (Miniature Threaded Connectors)

Commercial Part Number	Description	Vacuum Ready Part Number	Space Ready Part Number
CBBJR379	Circuit Board Bulkhead Jack		5-0032
BJ377	Bulkhead Jack	305-1480	5-0044
BJ379/BR	Bulkhead Jack	305-1573	5-0063
PL375	Plug	305-1574	5-0064
RFI375	RFI Cap	305-1602	5-0068
TNT1/TNTS1	Terminator	305-1468	5-0070
CJ370C	Cable Jack		5-0091

SPACE RATED CONNECTORS

TRB Series (Miniature Bayonet Connectors)

Commercial Part Number	Description	Vacuum Ready Part Number	Space Ready Part Number
BJ78HS	Bulkhead Jack	305-1539	5-0009
ADBJ77-A1PL3155	Adapter		5-0010
PL75C	Plug	305-1241	5-0011
ADRMF70/TL/370/4L	Adapter		5-0017
PLR75C	Right Angle Plug	305-1512	5-0019
CBJ70/TL/FL/370	Cable Jack		5-0020
BJ76	Bulkhead Jack	305-1238	5-0023
ADBJ77/POLAR TO PL75 POLAR	Adapter	305-1317	5-0025
BJ79	Bulkhead Jack	305-1518	5-0026
BJ79C	Bulkhead Jack	305-1309	5-0027
PL74/PL74BR	Plug	305-1600	5-0028
CBBJR79/A	PCB Jack	305-1473	5-0031
PL375C/S	Plug	305-1484	5-0033
PL75	Plug	305-1240	5-0038
PL75CFL	Plug	305-1324	5-0039
PL75FL/BR	Plug	305-1242	5-0040
CBBJR79FL	PCB Jack		5-0043
BJ76FL	Bulkhead Jack	305-1239	5-0053
BJ78	Bulkhead Jack	305-1565	5-0054
BJ78FL	Bulkhead Jack	305-1564	5-0055
CBBJ79/TL/FL/379	PCB Jack	305-1601	5-0065
PLR70C WITH DSN312702	Plug		5-0067
RFI75	RFI Cap		5-0069
CJ70	Cable Jack	305-1519	5-0072
CJ70FL/BR	Cable Jack	305-1572	5-0073
BJ376	Bulkhead Jack		5-0085
BJ76HS	Bulkhead Jack		5-0086
TNG1/FL1/TL1	Terminator	305-1445	5-0108
ADBJ77/TL/FL/377 TO 70 SERIES	Adapter	305-1306	5-0024

TRS Series (Subminiature Bayonet Connectors)

Commercial Part Number	Description	Vacuum Ready Part Number	Space Ready Part Number
BJ157	Bulkhead Jack		5-0034
BJ3157F SPECIAL	Bulkhead Jack	305-1549	5-0005
PL155AC	Plug	305-1310	5-0219
CBBJ3159	Circuit Board Bulkhead Jack	305-1581	5-0008
BJ159AC	Bulkhead Jack	305-1311	5-0012
PL3155/S	Plug	305-1507	5-0016
305-0525 (150 SERIES ADAPTER)		305-1579	5-0018
TNGBJM1/TNTBJM1/TNGBJMFL1		305-1496	5-0030
BJ150	Bulkhead Jack		5-0046
BJ158	Bulkhead Jack		5-0047
PLR155AC	Plug		5-0049
PL155FL	Plug	305-1609	5-0058
CJ150	Cable Jack		5-0059
BJ159	Bulkhead Jack		5-0061
CJ150FL	Cable Jack		5-0062
BJ150FL	Bulkhead Jack		5-0080
PL3155 W/ 14" of cable	Plug	305-1488	5-0083
CJ150AC	Cable Jack	305-1381	5-0087
BJ155	Bulkhead Jack	305-1628	5-0090
PL155ACFL	Plug		5-0092
BJ3150HS/S SPECIAL	Bulkhead Jack	305-1053	5-0093
BJ3159AC/S	Bulkhead Jack	305-1559	5-0101
BJ3159AC/S WITH 100% A&B TEST	Bulkhead Jack		5-0106
RFI155(FL)/RFI3155	RFI Cap	305-1475	5-0022

450 Series (Micro Miniature Connectors)

Commercial Part Number	Description	Vacuum Ready Part Number	Space Ready Part Number
BJ3450/P/S	Bulkhead Jack	305-1500	5-0001
PLR3455AC/P/S	Right Angle Plug	305-1597	5-0004
CJ3450AC/P/S	Cable Jack	305-1542	5-0006
CBBJ3459/P/S SPL	PCB Jack		5-0021
PL3455ACP/S	Plug	305-1535	5-0041
BJ450	Bulkhead Jack	305-1231	5-0048
PL455AC	Plug	305-1236	5-0051
PLR455AC	Right Angle Plug		5-0052
BJ3459AC/P/S	Bulkhead Jack	305-1534	5-0077
PL3455AC/SPL, HEX COUPLING	Plug	305-1621	5-0088
PL3455ACP/S (POGO PIN)	Plug		5-0096
PL3455AC	Plug		5-0104
BJ3450P/S WITH 100% A&B TEST	Bulkhead Jack		5-0105
RFI455/FL/3455	RFI Cap	305-1368	5-0107



About Cinch Connectivity Solutions

In operation since 1917, Cinch supplies high quality, high performance connectors and cables globally to the Aerospace, Military/Defense, Commercial Transportation, Oil & Gas, High End Computer, and other markets. We provide custom solutions with our creative, hands on engineering and end to end approach.

Our diverse product offerings include: connectors, enclosures and cable assemblies utilizing multiple contact technologies including copper and fiber optics. Our product engineering and development activities employ cutting edge technologies for design and modeling, and our various technologies and expertise enable us to deliver custom solutions and products for our strategic partnerships.



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