

DESCRIPTION

PRODUCT COVERED:

USR, CNR - Component-Magnet Wire Connectors, Type, MAG-MATE□□ Wire Interconnect System part numbers tabulated herein.

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE USE):

Products designated USR have been investigated using requirements contained in the Standard UL 486A-486B.

Products designated CNR have been investigated using requirements contained in CSA C22.2 No. 65 - 13.

ENGINEERING CONSIDERATIONS:

These devices are wire connectors intended for factory assembly on copper or aluminium magnet wire without stripping the conductor insulation. They are suitable for use in equipment where the acceptability of the combination has been judged by UL LLC.

Conditions of Acceptability - In order to be judged acceptable as a component of electrical equipment, the following lists of conditions should be met.

1. The devices are for assembly of round magnet wire employing insulation as follows: enamelled, varnished or nylon wrap (Nomex).
2. These devices do not provide strain relief.
3. These devices are for assembly using this manufacturer's plastic cavity specifications, and hand tool or hand loaded semi-automatic bench machine.
4. These devices were tested in thermoplastic "test cavities" molded of Recognized Component plastic (QMFZ2), Valox 420 by General Electric Co. The acceptance of other plastic materials shall be judged in end-use applications.
5. Heating and Cycling Tests - The connectors were judged with respect to their ability to carry current based on their max wire sizes by subjecting them to Heating and Cycling Tests without vibration in 80°C ambient. Refer to the Test Records for temperature rises recorded. The acceptability of the temperature rises in the Heating and Cycling Tests including any higher temperature rise is to be judged with respect to the requirements of the equipment in which the magnet wire connectors are used.
6. Vibration - Connectors were not subjected to Vibration Tests. The possible effects to vibration shall be considered in the end product use.
7. Types intended for "Leaf" contacts are not provided with a detent. The Temperature Rise Test was conducted with a brass leaf, 0.025 in thick, 0.1 in wide inserted into the MAG-MATE and carrying current. The acceptability of other sizes of mating leaf and the need for a detent or other retaining means should be determined in the end product.

and Report

8. Intermixing of copper and aluminium magnet wires shall be limited to dry locations.

Rating - The copper and aluminium magnet wires are rated in accordance with the following tabulations. Refer to the illustrations for catalog numbers and associated wire sizes.

Standard MAG-MATE (.120 by .135 by .300 box)			Small box (.09 by .07 by .187) Mini-MAG-MATE	
Magnet Wire Size AWG	Current Rating (A) Copper	Aluminium	Magnet Wire Size-AWG Copper Only	Current Rating (A)
13	21	14.5		
14	18.5	12.75		
15	16	10.75		
16	14	9.05		
17	11.0	7.5	22	4.5
18	10.0	6.75	23	3.75
19	9.0	6.0	24	3.5
20	8.0	5.5	25	3.0
21	7.0	4.75	26	2.5
22	6.25	4.25	27	2.0
23	5.5	3.75	28	1.75
24	4.75	3.25	29	1.5
25	4.0	2.75	30	1.25
26	3.75	2.5	31	0.75
27	3.0	2.0	32	0.5
28	2.5	1.75	33	0.5
29	2.25	N/A	34	0.5
30	1.75	N/A	35	0.5
31	1.0	N/A	36	0.5
32	0.75	N/A	37	0.5
33	0.5	N/A	38	0.5

9. The Splice terminal Mag-Mate, part number 1742996-1 may terminate with the wire size range 19-17 AWG, Sol, Cu, magnet wire, and 18-16.5 AWG, Sol, Al, magnet wire. As for the construction detail, refer to ILL. 123.

10. All devices except for Cat. Nos. 1742940-1 and 1742996-1 are constructed of base metal C260 (70% Cu, 29% Zn) **or** C274 (Zn C274 - 64% Cu, 35% Zn). Cat. Nos. 1742940-1 and 1742996-1 are constructed solely of C274 copper alloy base metal (62-64% Cu and balance is practically all zinc content) construction.

11. Cat. Nos. 1742940-1 and 62958-1 have an assigned supplemental rating of one or two No. 27-24AWG sol Al magnet wire. Pull to Displacement was only conducted on representative 62958-1. The min pull out force recorded was 5.64lb for two - No. 27 and 5.4lb for two No. 24 AWG sol Al magnet wire. The suitability of this wire range shall be an end-product consideration.

12. Cat. Nos. 2825382-1□2825380-1 are intended to be used internal to an end-product where they will not be subject to any stress or force as these devices have not been subjected to the Pullout test. Pull to Displacement was only conducted on representative 2825382-1. The min pull out force recorded was 1.5 lb for 24 AWG solid Al magnet wire. As for the construction detail, refer to ILLs. 130, 131.