

File E13288  
Project 01ME13023

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REPORT

on

COMPONENT - **WIRE CONNECTORS**

Tyco Electronics Corp.  
Harrisburg, PA

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## DESCRIPTION

## PRODUCT COVERED:

\* Component - Magnet Wire Connectors, Type MAG-MATE™ Wire Interconnect System part numbers tabulated herein. **Cat. Nos. 881257-1/-2/-3/-4/-6 and 1380154-1/-2.**

## ENGINEERING CONSIDERATIONS:

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

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: enameled, 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. Intermixing of copper and aluminum magnet wires shall be limited to dry locations.

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

Magnet Wire Size, AWG	Standard Mag-Mate (.120 by .135 by .300 box)		Mini Mag-Mate (.09 by .07 by .187 box)	
	Current Rating (A)		Magnet Wire Size - AWG Copper Only	Current Rating (A)
	Copper	Aluminum		
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

Cat. No. 881257-6 is identical in construction to Cat. No. 881257-3. The new -6 has the following ratings:

Copper Magnet Wire Size, AWG	Standard Mag-Mate (.120 by .135 by .300 box)
	Current Rating (A)
20	0.5
21	
22	