



NEMA Magnet Wire Section

**White Paper on the Treatment of Magnet Wire under
European Union's REACH Regulation**

Prepared by

National Electrical Manufacturers Association

1300 N. 17th Street, Suite 1752

Rosslyn, VA 22209

www.nema.org

© Copyright 2009 by the National Electrical Manufacturers Association

1. Introduction

On June 1, 2007, the European Union's new regulatory regime for chemicals and substances entered into force, entitled *Registration, Evaluation and Authorization of Chemicals* (REACH: Regulation EC 1907/2006) and known simply as "REACH."

The initiative takes a broad and precautionary approach that not only impacts chemical manufacturers but also industrial equipment and component manufacturers as downstream users of chemicals. Recognizing the significance of REACH, NEMA's Magnet Wire Section has taken a close look at its requirements with respect to their product area.

2. Magnet Wire as an Article

Magnet wire is an insulated electrical conductor, usually copper or aluminum that when wound into a coil and energized creates a useful electrical field. The primary end users of magnet wire products include the automotive, ballast, motor, generator, and transformer industries.

REACH defines an "article" as "an object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition" (REACH, Article 3(3)). Magnet wire shape, surface and design (conductor metal, bare and insulated dimensions, insulation type, and build) are always deliberately determined and given during production, which conforms to the basic requirement for an article in accordance with this REACH definition. There are well-established, systematic design criteria (American National Standards Institute (ANSI)/National Electrical Manufacturers Association (NEMA) Standard MW 1000-2008; International Electrotechnical Commission (IEC) 60317 series of standards), including a series of round gauge (AWG) sizes, and square and rectangular dimensional standards for bare and insulated wire that support the assertion that magnet wire is an article.

Numerous metals and substances are effective conductors of electricity and there are many materials (e.g., paper, textiles) and resin formulations that serve as insulators. While there are a variety of suitable substances available, any one that may be selected must conform to the design criteria established for magnet wire. This also suggests that shape and design is paramount to the selection of any particular substance used in the magnet wire construction.

3. REACH Requirements for Articles

Article 7(1) of REACH requires registration of substances in articles only when the following conditions are met: (1) "the substances are intended to be released from the article(s) during normal and reasonably foreseeable conditions of use" and (2) "the amount of the substance present in all articles with intended release produced or imported by one actor exceeds one tonne per year."

4. Conclusion

Based on a review of publicly available guidance documents published by the European Chemicals Agency (ECHA), members of the NEMA Magnet Wire Section understand that finished magnet wire products would be considered “articles” pursuant to the EU’s provisions for REACH (REACH, Article 3(3)). In addition, pursuant to Article 7(1) of REACH, magnet wire does not include substances which are intended to be released during normal and reasonably foreseeable conditions of use. Although the NEMA Magnet Wire Section understands that magnet wire producers may be subject to other obligations under REACH, given the findings addressed in this document, there is no requirement for magnet wire to be pre-registered or registered under REACH.

In publishing this statement of understanding, NEMA, the NEMA Magnet Wire Section and its members disclaim providing legal advice, and entities seeking to determine their compliance obligations under the REACH Directive should consult with their counsel.