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NEMA STANDARDS PUBLICATION

NEMA CG 3.2

TORQUING DEVICES FOR ELECTRODES— SELECTION THROUGH DISPOSAL

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

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Torquing Devices for Electrodes – Selection through Disposal

Published by

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Foreword

The purpose of this NEMA Standards Publication is to foster the safe use of torquing devices by assisting personnel involved with these devices. This standard assists those personnel in communicating about the aspects of electrode torquing devices involving selection, inspection, handling, and disposal.

This Standards Publication was developed by the Carbon Technical Committee of the NEMA Carbon and Manufactured Graphite Section and approved as a NEMA Standard. During the development of this publication, the input of users and other interested parties was sought and evaluated. This publication will be reviewed periodically; inquiries, comments, and proposed or recommended revisions should be submitted to:

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This Standards Publication was developed by the Carbon Technical Committee of the Carbon and Manufactured Graphite Section. Section approval of the standard does not necessarily imply that all section members voted for its approval or participated in its development. At the time it was approved, the Group/ Section was composed of the following members:

The Carbon/Graphite Group, Inc.—Pittsburgh, PA
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Section 1
GENERAL

1.1 SCOPE

This Standards Publication provides direction to personnel involved with electrode torquing devices regarding the selection, inspection, handling, and disposal of these devices. For the purposes of this publication, electrode torquing devices are those specifically used for the joining of manufactured graphite and carbon electrodes for electric arc furnaces. NEMA CG 1 specifies dimensions and tolerances of the manufactured graphite and carbon electrodes with which these torquing devices are used.

1.2 NORMATIVE REFERENCES

The following documents contain definitions and provisions, which through reference in this text, constitute definitions and provisions of this Standards Publication. By reference herein, these documents are adopted in whole or in part, as indicated.

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Section 2
REQUIREMENTS FOR SELECTION OF TORQUING DEVICES

2.1 SELECTION CRITERIA

2.1.1 Selection of Torquing Devices

The torquing device shall be capable of meeting the torques recommended by the electrode suppliers based on diameters. Examples of torquing devices include, but are not limited to, chain wrenches, band wrenches, robots, and hydraulic cylinders.

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Section 3
INSTRUCTIONS FOR INSPECTION OF TORQUING DEVICES

3.1 INSPECTION

3.1.1 Types of Inspection

The following inspections shall be developed and done on torquing devices by the user to determine fitness for use:

a. initial inspection;
b. periodic inspection;
c. inspection of the device prior to each use.

An identifying code shall be assigned to each torquing device and this shall be linked to inspection reports for each of the above types of inspections.

3.1.2 Initial Inspection

All components of a torquing device, whether new or repaired, shall be inspected by qualified personnel prior to use. A written record of component condition shall be maintained.

3.1.3 Period Inspection

All components of a torquing device shall be periodically inspected by qualified personnel for damage and wear using appropriate techniques. A written record of component condition shall be maintained.

3.1.4 Inspection Prior to Each Use

The operator shall perform a visual inspection of the torquing device prior to each use. Should any deficiencies be found, the operator shall notify designated personnel for corrective action.

3.1.5 Areas of Inspection

The following conditions shall be checked at each inspection:

a. corrosion;
b. cracks and tears;
c. worn or missing gripping teeth;
d. bent handle.

Any degradation shall be documented. This documentation shall be used to determine when the torquing device must be removed from service for repair or disposal.

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3.2 REPAIR AND MODIFICATION

No modifications shall be made to the originally supplied equipment. After replacement of any component, the torquing device shall be inspected by qualified personnel in accordance with 3.3.

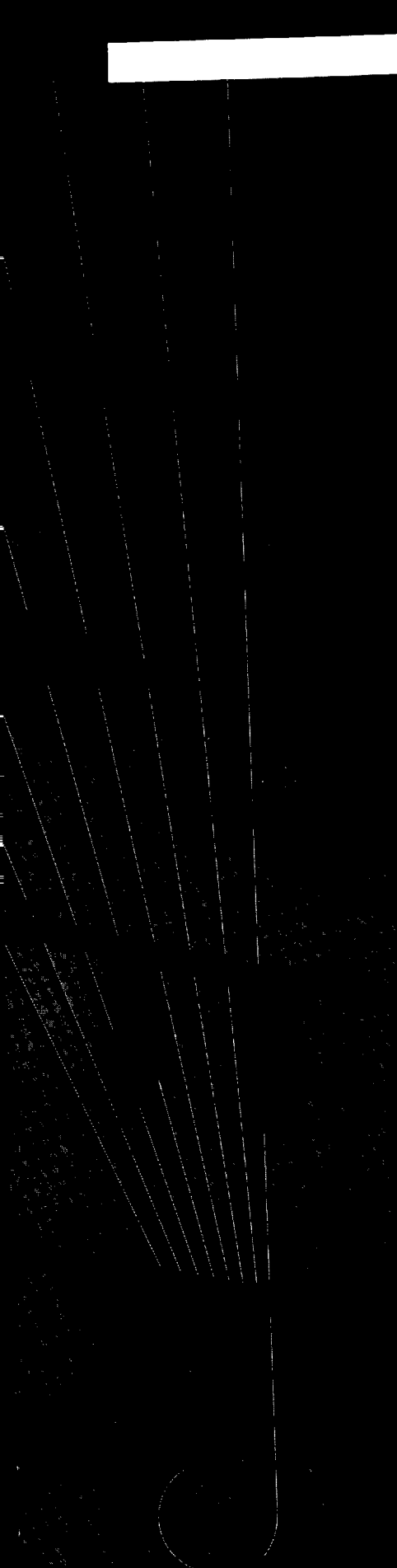
3.3 REMOVAL AND DISPOSAL

The device shall be removed from service when any cracks in the metal components are detected.

A torquing device shall be disposed of in such a manner as to prevent reuse when it is determined that the device is no longer fit for service.

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