

**NEMA Standards Publication CG 2-2004**

*Powdered Graphite*

*Published by:*

**National Electrical Manufacturers Association**

1300 North 17th Street, Suite 1847

Rosslyn, Virginia 22209

[www.nema.org](http://www.nema.org)

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## CONTENTS

	Page
Foreword.....	iv
<b>Section 1 GENERAL</b>	
1.1 Scope.....	1
1.2 Normative References .....	1
1.3 Definitions .....	2
1.3.1 Definitions for Graphite .....	2
1.3.2 Other Definitions .....	2
<b>Section 2 TEST METHODS</b>	
2.1 Proximate Graphite Analysis .....	4
2.1.1 Scope .....	4
2.1.2 Interferences .....	4
2.1.3 Apparatus .....	4
2.1.4 Procedure for Testing Percent Moisture .....	4
2.1.5 Procedure for Testing Percent Volatile .....	4
2.1.6 Procedure for Testing Percent Ash.....	4
2.1.7 Procedure for Testing Percent Loss on Ignition .....	4
2.1.8 Calculations.....	5
2.1.9 Report.....	5
2.2 Bulk Density.....	5
2.2.1 Scope .....	5
2.2.2 Interferences .....	5
2.2.3 Apparatus .....	6
2.2.4 Procedure.....	6
2.2.5 Calculation.....	6
2.2.6 Report.....	6
2.3 Compressed Density.....	8
2.3.1 Scope .....	8
2.3.2 Interference .....	8
2.3.3 Apparatus .....	8
2.3.4 Procedure.....	8
2.3.5 Calculation.....	8
2.3.6 Report.....	8
2.4 Tap Density .....	8
2.4.1 Scope .....	8
2.4.2 Interference .....	8

2.4.3	Apparatus .....	9
2.4.4	Procedure.....	10
2.4.5	Calculation.....	10
2.4.6	Report.....	10
2.5	Particle Size Analysis by Light Scattering Method .....	10
2.5.1	Scope .....	10
2.5.2	Interference .....	10
2.5.3	Apparatus .....	10
2.5.4	Procedure.....	10
2.5.5	Calculations.....	11
2.5.6	Report.....	11
2.6	Particle Size Analysis by Vacuum Sieve Method .....	11
2.6.1	Scope .....	11
2.6.2	Interferences .....	11
2.6.3	Apparatus .....	11
2.6.4	Procedure.....	11
2.6.5	Calculations.....	11
2.6.6	Report.....	12
2.7	Impurities by X-Ray Fluorescence Method.....	12
2.7.1	Scope .....	12
2.7.2	Interference .....	12
2.7.3	Apparatus .....	12
2.7.4	Procedure.....	12
2.7.5	Calculations.....	13
2.7.6	Report.....	13
2.8	Real Density by Gas Pycnometry Method .....	13
2.8.1	Scope .....	13
2.8.2	Interferences .....	13
2.8.3	Apparatus .....	13
2.8.4	Procedure.....	13
2.8.5	Calculations.....	15
2.8.6	Report.....	15
2.9	Surface Area.....	15
2.9.1	Scope .....	15
2.9.2	Interferences .....	15
2.9.3	Apparatus .....	15
2.9.4	Procedure.....	16

	2.9.5	Calculations.....	16
	2.9.6	Report.....	16
2.10		pH.....	16
	2.10.1	Scope .....	16
	2.10.2	Interference .....	16
	2.10.3	Apparatus.....	16
	2.10.4	Procedure.....	17
	2.10.5	Calculations.....	17
	2.10.6	Report.....	17
2.11		Resiliency .....	17
	2.11.1	Scope .....	17
	2.11.2	Interferences .....	17
	2.11.3	Apparatus.....	17
	2.11.4	Procedure.....	17
	2.11.5	Calculations.....	18
	2.11.6	Report.....	18
2.12		Electrical Resistivity.....	18
	2.12.1	Scope .....	18
	2.12.2	Interferences .....	18
	2.12.3	Apparatus.....	18
	2.12.4	Procedure.....	18
	2.12.5	Calculations.....	19
	2.12.6	Report.....	19

**FIGURES**

Figure 2-1	Volumeter for Bulk Density Test.....	7
Figure 2-2	Mechanical Tapping Device .....	9
Figure 2-3	Typical Gas Pycnometer.....	14
Figure 2-4	Mold Assembly for Electrical Resistivity Test.....	20

## Foreword

User needs and safety considerations were addressed during the preparation of this Standard, which was reviewed and approved for publication by both the Graphite Technical Committee and the Refractory, Metallurgical, and Chemical Group of the Carbon and Manufactured Graphite Section.

SI units for weights and measures are used wherever possible; U.S. customary units are used only where it is necessary to agree with common U.S. laboratory equipment and practices.

All clauses—i.e., scope, normative references, definitions, and test methods—are considered normative (equivalent to the designation of "NEMA Standard"). Matter considered informative (equivalent to the designation of "NEMA Authorized Engineering Information") appears under notes in these clauses.

The Carbon and Manufactured Graphite Section will periodically review this Standards Publication and revise it as necessary to reflect advancing technology. Proposed or recommended revisions, as well as questions concerning the availability of generically described test equipment, should be submitted to:

Vice President, Engineering Department  
National Electrical Manufacturers Association  
1300 North 17th Street  
Rosslyn, Virginia 22209

This Standards Publication was developed by the Powdered Graphite Working Group of the NEMA 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 Powdered Graphite Working Group was composed of the following members:

Graftech International Limited  
SGL Carbon Corporation, LLC  
Showa Denko Carbon, Inc.  
Superior Graphite Company

## Section 1 GENERAL

### 1.1 SCOPE

This standard covers terminology and test methods for those physical and chemical properties relevant to the material characterization of powdered graphite, generally less than 75 microns, used in the electrical industry. The test methods specified assume adherence to good laboratory practice. No attempt has been made to determine the precision and bias of these test methods.

This standard does not contain any application performance requirements relative to powdered graphite.

### 1.2 NORMATIVE REFERENCES

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and investigation of applying the most recent editions of the standards indicated below is encouraged.

#### American Society for Testing and Materials

100 Barr Harbor Drive  
West Consochocken, PA 19428

ASTM C 561-91	<i>Standard Test Method for Ash in a Graphite Sample</i>
ASTM C 562-91	<i>Standard Test Method for Moisture in a Graphite Sample</i>
ASTM C 709-91	<i>Standard Terminology for Manufactured Carbon and Graphite</i>
ASTM C 816-92	<i>Standard Test Method for Sulfur in Graphite by Combustion-Iodometric Titration</i>
ASTM D 2638-91	<i>Standard Test Method for Real Density of Calcined Petroleum Coke by Helium Pycnometry</i>
ASTM D 3175-89	<i>Standard Test Method for Volatile Matter in the Analysis Sample of Coal and Coke</i>
ASTM D 3177-89	<i>Standard Test Method for Total Sulfur in the Analysis Sample of Coal and Coke</i>
ASTM D 4326-90	<i>Standard Test Method for Major and Minor Elements in Coal and Coke Ash by X-Ray Fluorescence</i>
ASTM D 5004-89	<i>Standard Test Method for Real Density of Calcined Petroleum Coke by Xylene Displacement</i>
ASTM D 5187-91	<i>Standard Test Method for Determination of Crystallite Size (<math>L_c</math>) of Calcined Petroleum Coke by X-Ray Diffraction</i>
ASTM E 305-89	<i>Standard Practice for Establishing and Controlling Spectrochemical Analytical Curves</i>
ASTM E 1617-94	<i>Standard Practice for Reporting Particle Size Characterization Data</i>