UNION CARBIDE PLASTICS COMPANY
Division of Union Carbide Corporation
[illegible] Street, New York 17, New York

UNION CARBIDE

PRODUCT STANDARDS

PLAINTIFF'S EXHIBIT
UC-5297

'BAKELITE' PHENOLIC MOLDING MATERIAL

PRODUCT DESIGNATION
BMG-5418
BLACK - 45

ISSUE NUMBER 4

DATE June 11, 1960

T.L. 37.75
[illegible] 39.75
[illegible] 42.50

DESCRIPTION BMG-5418 Black 45 is a special type of mineral filled phenolic molding material containing graphite to give it a lower coefficient of friction. It also has good resistance to moisture and good dimensional stability. BMG-5418 Black 45 has been found satisfactory for molded slide valves and is particularly recommended for that and similar applications. Since graphite adversely affects electrical properties, BMG-5418 Black 45 ordinarily is not recommended for electrical insulation.

Filler is completely asbestos. (ca. 50%).

PROPERTY	SPECIMEN	TESTING METHOD	UNIT	VALUE
Specific Gravity	. . .	D792	. . .	1.89-1.97
Bulk Factor	. . .	D392	. . .	2.6 max.
Molding Shrinkage	1/8 x 4 in. disk	D955	inch/inch	0.002-0.004
Izod Impact Strength	1/2x1/2x2-1/2 in.	D256	ft. lb./in. notch	0.36 av.
Tensile Strength	1/8 in. specimen	D651	psi	4,700 av.
Flexural Strength	1/4x1/2x5 in.	D790	psi	7,000 av.
Modulus of Elasticity in Flexure	1/4x1/2x5 in.	D790	psi	2 x 10[6] av.
Compressive Strength	1/2x1/2x1 in.	D695	psi	16,000 av.
Dielectric Strength, Short Time	1/8x4 in. disk	D149	volts/mil	120 av.
Volume Resistivity	1/8x4 in. disk	D257	ohm-cm.	2 x 10[11] av.
GRAPHITE CONTENT				*4.5% - 7.0*
SHRINKAGE				*4-5 mils/inch*
Deflection Temp. at 264 psi	1/2x1/2x5 in.	D648	deg. F.	300 av.
Water Absorption, gain in weight	1/8x2 in. disk	D570	per cent	0.10 av.
Granulation	6 Mesh			
Plasticity	Grades Available: 4,6,9,12,15.			
Tableting Quality	Can be tabletted with the usual equipment with the aid of special feeding devices.			
Heat Resistance	Exposure to temperatures in excess of 350°F. ordinarily is not recommended but higher temperatures may be withstood if exposures are not prolonged. Trial under expected service conditions is advisable and it is suggested that heat resistance requirements be discussed with a Union Carbide Plastics Company Representative since the effects of elevated temperatures vary for different properties.			

See opposite side for definitions and packaging instructions.

A00005

The property values given are those to be expected in the product at the time of manufacture. These values are dependent upon the testing methods as indicated. Properties more certain to be realized are measured with lesser frequency than others or as usual where manufacturing operations are closely controlled. If applications require continual verification of a certain property or properties, requirements should be discussed with a Union Carbide Plastics Company Technical Representative.
4A-334-148

Bakelite Division Union Carbide Corporation
30 East 42nd Street New York 17, New York

UNION CARBIDE **PRODUCT STANDARDS**

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Filler is completely asbestos. (Ca. 51%).

PROPERTY	SPECIMEN	TESTING METHOD	UNIT	VALUE
Specific Gravity	...	D792	...	1.69-1.87
Bulk Factor	...	D892	...	2.6 max.
Molding Shrinkage	1/8 x 4 in. disk	D955	inch/inch	0.002-0.004
Izod Impact Strength	1/2x1/2x2-1/2 in.	D256	ft. lb./in. notch	0.36 av.
Tensile Strength	1/8 in. specimen	D651	psi	4,700 av.
Flexural Strength	1/4x1/2x5 in.	D790	psi	7,000 av.
Modulus of Elasticity in Flexure	1/4x1/2x5 in.	D790	psi	2×10^6 av.
Compressive Strength	1/2x1/2x1 in.	D695	psi	18,000 av.
Dielectric Strength, Short Time	1/8x4 in. disk	D149	volts/mil	150 av.
Volume Resistivity	1/8x4 in. disk	D257	ohm-cm.	2×10^{11} av.
GRAPHITE CONTENT				4.5 % -7.5
SHRINKAGE				4-5 mils/inch
Deflection Temp. at 264 psi	1/2x1/2x5 in.	D648	deg. F.	300 av.
Water Absorption, gain in weight	1/8x2 in. disk	D570	per cent	0.10 av.
Granulation	6 Mesh			
Plasticity	Grades Available: 4,5,9,12,15.			
Tableting Quality	Can be tableted with the usual equipment with the aid of special feeding devices.			
Heat Resistance	Exposure to temperatures in excess of 350°F. ordinarily is not recommended but higher temperatures may be withstood if exposures are not prolonged. Trial under expected service conditions is advisable and it is suggested that heat resistance requirements be discussed with a Union Carbide Plastics Company Representative since the effects of elevated temperatures vary for different properties.			

See opposite side for definitions and packaging instructions.

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The property values given are those to be expected of the product at the time of manufacture. Tests related are dependent upon the testing methods as indicated. Properties are certain to be realized on measures with lesser frequency than given as it is usual where manufacturing operations are closely controlled. If applications require continual verification of certain property or properties, requirements should be discussed with a Union Carbide Plastics Company Technical Representative.