

# COMPANY STANDARDS

C5005-01

TITLE :  
SILICON RUBBER (VMQ-1C) FOR  
'O'RINGS

PAGE NO. 1 OF 2

DATE : 2003-07-15

## 0. GENERAL :

This Standard provides specification requirements of Silicon rubber for 'O'Rings used for static applications.

This issuance supersedes C5005-01/02-1989-09-13. In preparation of this issuance, assistance is taken from KES: D07000 (1994) & ASTM D2000 (2002).

## 1. SCOPE :

This Standard specifies type of Silicon rubber used, physical properties, tests and designation for manufacture of 'O'Rings.

## 2. TYPE :

The type of Silicone rubber used, its working temperature and applicable pressure range shall be as per Table-1.

TABLE-1

SL NO	TYPE	MATERIAL	OPERATING TEMP. °C	APPLICABLE PRESSURE (MPa.)
01	C5005-01	SILICON RUBBER (VMQ-1C)	-55 to +180	2.94 max.

## 3. PHYSICAL PROPERTIES :

The physical properties such as hardness, tensile strength and elongation at different test conditions shall be as per Table-2.

## 4. DESIGNATION :

This material is designated under one standard C5005-01. This shall be mentioned in the material column of the respective 'O'Ring standards or drawings..

## 5. TESTS :

The test parameters and method of tests shall be as per Table-2.

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CFWC-"MATERIALS"

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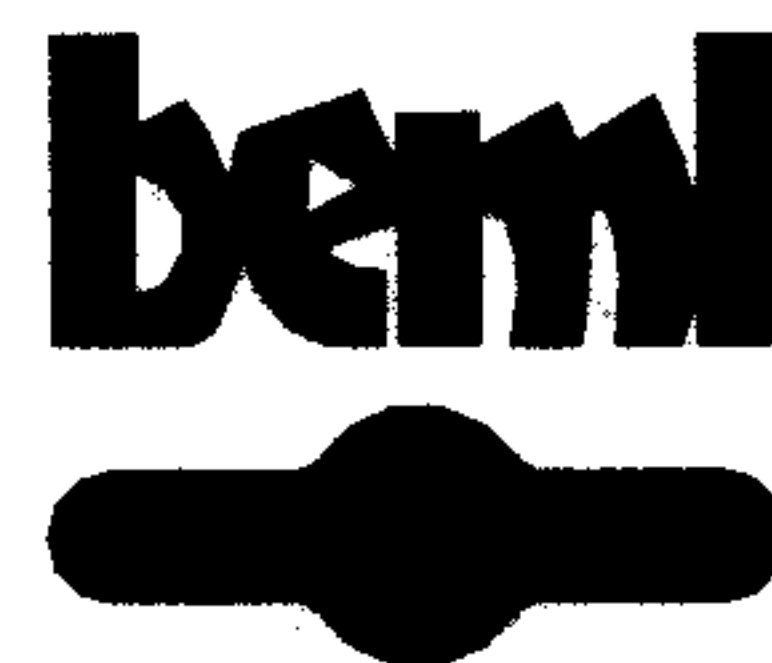
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TABLE-2

SL NO	TEST CHARACTERISTICS Material =>	C5005-01 (VMQ-1C)	TEST METHOD	
			ASTM	IS: 3400
1	<u>ROOM TEMPERATURE TEST :</u> a) Hardness, (Hs). b) Tensile strength, (MPa.). c) Elongation, %.	68 ±5 6 (min) 150 (min)	D1415 D412 D1414	Part-2 Part-1
2	<u>AIR HEATING AGING TEST :</u> a) Hardness change, (Hs). b) Change in tensile strength, % c) Change in elongation, %.	TEST TEMP x TIME = 225°C x 70 h  +10 (max) -25 (max) -30 (max)	D573  D1415 D412 D1414	Part-4  Part-2 Part-1
3	<u>OIL PROOF TEST :</u> a) Hardness change, (Hs). b) Change in tensile strength, % c) Change in Elongation, %. d) Change in volume, %.	SAE 10W x 70 h x 150°C  0 to -15 -20 (max) -20 (max) 0 to +15	D471  D1415 D412 D1414 D471	Part-6  Part-2 Part-1 Part-6
4	<u>OIL PROOF TEST :</u> e) Hardness change, (Hs) f) Change in volume, %.	SAE 30 x 70 h x 150°C  -30 (max) +60 (max)	D471  D1415 D471	Part-6  Part-2 Part-6
5	<u>COMPRESSION SET, % :</u> 22h X 175°C	25 (max)	D395 Method B	Part-10
6	<u>COLD PROOF TEST :</u> a) Low temperature test,	TEST TEMP. = -55°C, TIME = 3 minutes Free from cracks	D2137 (Impact method)	---

ASTM D 412 For test slab.

ASTM D 1414 For 'O'Rings.

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