

## LABORATORY REPORT

Page:1/1

E-07-D

Date:Nov/15/2019

MATERIAL : SILICONE RUBBER  
 COMPOUND : S7031AB  
 SPEC. : ASTM D2000 M2GE705 A19 B37 EA14 EO16 EO36 F19 G11 Z1 Z2 Z3  
 Z1=NSF 61 approved  
 Z2= meet to FDA21 CFR 177.2600  
 Z3=Service Temperature -60°C ~ +225°C  
 COLOR : RUST

<u>Original Physical Properties</u>	<u>Requirements</u>	<u>Results</u>
Hardness, (Shore A) (ASTM D2240-15 <sup>e1</sup> )	70±5	72
Tensile Strength, psi(MPa) (ASTM D412-16)	725(5)(min)	885(6.10)
Elongation, (%) (ASTM D412-16)	150(min)	208
Modulus at 100%, psi(MPa) (ASTM D412-16)		553(3.81)
Density, (Mg/m <sup>3</sup> ) (CNS 5341-96, Method A)		1.32
<b><u>G11 Tear resistance, (ASTM D624-00)</u></b>	<b>5kN/m(Die B)(min)</b>	<b>12.86</b>
<b><u>A19 Heat age, 70 Hrs @ 225 °C (ASTM D573-04)</u></b>		
Hardness Change, pts.	+10(max)	+1
Tensile Strength Change, %	-25(max)	-7
Elongation Change, %	-30(max)	-27
Weight Change, %		-0.6
<b><u>B37 Compression set, 22 Hrs @ 175 °C (ASTM D395-18,Method B)</u></b>	<b>25%(plied)(max)</b>	<b>16.8</b>
<b><u>EA14 Water resistance, 70 Hrs @ 100 °C (ASTM D471-16a)</u></b>		
Hardness Change, pts.	±5	-2
Tensile Strength Change, %		-10
Elongation Change, %		-4
Volume Change, %	±5	+0.9
<b><u>EO16 IRM 901Oil, 70 Hrs @ 150 °C (ASTM D471-16a)</u></b>		
Hardness Change, pts.	-10~0	-8
Tensile Strength Change, %	-30(max)	+10
Elongation Change, %	-30(max)	-7
Volume Change, %	0~+15	+4.8
<b><u>EO36 IRM 903 Oil, 70 Hrs @ 150 °C (ASTM D471-16a)</u></b>		
Hardness Change, pts.		-23
Tensile Strength Change, %		-8
Elongation Change, %		-14

**Volume Change, %**

**+60(max)**

**+36.2**

**F19 Low-Temperature Brittleness Point Test, 3 minute @ -55 °C (ASTM D2137-11, Method C)**

**Sample type: T-50,**

**Coolant : Isopropyl alcohol,**

**Low Temperature Property**

**no-cracks**

**pass**

**APPROVAL Denni  
(Lab Manager)**

**AUDIT Ru-Ling Liu  
(Chemical Engineer)**

**REPORT Chian-Yi Lee  
(Laboratory Specialist)**