



SEALANT, SILICONE RUBBER, OXIME CURED, LOW VISCOSITY	WSE-M4G323-A4
SEALANT, SILICONE RUBBER, OXIME CURED, VERY HIGH VISCOSITY	WSE-M4G323-A6
SEALANT, SILICONE RUBBER, OXIME CURED, HIGH VISCOSITY	WSS-M4G323-A8
SEALANT, SILICONE RUBBER, OXIME CURED, HIGH VISCOSITY, BLACK	WSS-M4G323-A11

1. SCOPE

The material defined by this specification is a one component thixotropic spreadable silicone rubber based adhesive/sealant. It is capable of being pumped, metered and distributed into a gasket profile. These materials are ready for use as received, requiring no catalyst or heat cure.

2. APPLICATION

This specification was released originally for materials used for formed-in-place gaskets such as engine oil pan, rocker cover, cylinder block or oil pump, where high operating temperatures (up to 204 °C) may be encountered.

WSE-M4G323-

- A4 Low viscosity, low modulus oxime cured material with limited blowout resistance and long assembly time and good adhesion between steel to aluminum and aluminum to aluminum on clean and oiled panels. This material has very poor resistance to coolant/water and must not be used for these applications. Blow out resistance is low in gaps above 0.5mm.
- A6 Very high viscosity, medium modulus, oxime cured material with excellent blowout resistance and long assembly time, good oil resistance and excellent adhesion and robustness to joint movement on oiled steel and aluminum panels. This material has very poor resistance to coolant/water and must not be used for these applications.

WSS-M4G323-

- A8 High viscosity, high modulus, oxime cured material with very good blowout resistance and low assembly time, dependable oil resistance, good adhesion and robustness to joint movement on oiled steel and aluminum panels. This material is used primarily for driveline sealing but also has good resistance to coolant/water.
- A11 High viscosity, medium modulus, oxime cured material with excellent blowout resistance and long assembly time, good oil resistance and excellent adhesion and robustness to joint movement on oiled steel and aluminum panels. This material has very poor resistance to coolant/water and must not be used for these applications.

Date	Action	Revisions	Rev. 4
2014 07 18	Revised	Updated A4 para 3.7.4, See summary of revisions	G. Kowalski, NA
2010 01 06	Revised	A6 - Changes made to 3.4 and 3.9	A. Reaume, NA
1991 11 05	NEO1E1012	Released A4 and A6. A8 released 1998/05/12. A11 released 2013/04/18	E. Lusa

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3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.2 SPECIFIC GRAVITY

(ASTM D792, Method A)

A4	A6	A8	A11
1.30 – 1.37	1.30 – 1.41	1.44 – 1.49	1.20 – 1.40

3.3 EXTRUSION RATE, s

Test Method: Time to dispense 50 cc through a stainless steel nozzle with a 3.2 +/- 0.13 mm orifice and 50 +/- 0.13 mm in length at 448 kPa pressure using a #250 Semco gun and 170 g PE cartridge assembly. Start the test by dispensing 10 g and then timing the next 50 cc. To convert from g to cc, multiply by specific gravity.

A4	A6	A8	A11
30 – 150	1400 – 2400	500 – 1600	950 – 1500

3.4 BLOW OUT RESISTANCE, seconds, minimum

(ASTM F2523, Method A, 14 kPa pressure, cured for 1 minute and 30 minutes at 23 +/- 2 C, 50 % R.H)

One minute cure time:

Gap, 0 mm	>60	>60	>60	>60
Gap, 0.25 mm	>60	>60	>60	>60
Gap, 0.5 mm	>60	>60	>60	>60
Gap, 0.75 mm	NR	>60	>60	>60
Gap, 1.00 mm	NR	>60	NR	NR

30 minutes cure time:

Gap, 0 mm	>60	>60	>60	>60
Gap, 0.25 mm	>60	>60	>60	>60
Gap, 0.5 mm	>60	>60	>60	>60
Gap, 0.75 mm	NR	>60	>60	>60
Gap, 1.00 mm	NR	>60	>60	>60

NR= material not recommended to be pressure tested at this gap without full cure.

3.5 CURE RATE (Assembly Time), minutes

(FLTM BV 127-02 or FLTM BV 125-01, at 50 +/- 5% relative humidity and 23 +/- 2 °C, max time at which no material transfers.)

A4	A6	A8	A11
12 – 30	7 – 24	5 - 20	7 - 24

3.6 TOTAL SILICONE VOLATILES

(FLTM AV 102-01, cured 24 h at 23 +/- 2 °C and 50 +/- 5% R.H.)

0.6 max