ADHESIVES, ANAEROBIC, (AN) GASKETING	**WSK-M2G348-A1/A2**
ADHESIVES, ANAEROBIC, (AN) GASKETING	**WSK-M2G348-A4 to A9**
ADHESIVES, ANAEROBIC, (AN) GASKETING	**WSS-M2G348-A10 / A11**
ADHESIVES, ANAEROBIC, (AN) RETAINING	**WSK-M2G349-A3 to A5**
ADHESIVES, ANAEROBIC, (AN) RETAINING	**WSK-M2G349-A7 to A14**
ADHESIVES, ANAEROBIC, (AN) SEALING	**WSK-M2G350-A1 to A3**
ADHESIVES, ANAEROBIC, (AN) THREADLOCKING	**WSK-M2G351-A4**
ADHESIVES, ANAEROBIC, (AN) THREADLOCKING	**WSK-M2G351-A6 to A10**

1. SCOPE

The materials defined by these specifications are a series of single component, self-curing, anaerobic compounds which remain liquid as long as they are exposed to air and solidified by polymerization (not solvent evaporization) without significant shrinkage when confined between closely fitted metal parts in the absence of air.

2. APPLICATION

These specifications were originally released for applications requiring single component industrial quality adhesives formulated for assembling and adhering metals. Certain metals may accelerate the polymerization process.

WSK-M2G348 - Gasketing

A1 Flowable anaerobic material; slightly flexible when cured; 130 °C continuous use temperature; best suited for rigid heavily bolted ferrous metal flanges < 0.13 mm gap.

A2 Gel-like anaerobic material for automatic tracing application; slightly flexible when cured; 130 °C continuous use temperature; used with rigid, heavily bolted flanges of ferrous metal or aluminum alloys, < 0.18 mm gap.

A4 Gel-like anaerobic material for silk screen or manual application; slightly flexible when cured; 130 °C continuous use temperature; used with rigid, heavily bolted flanges of ferrous metal, < 0.18 mm gap.

A5 Gel-like anaerobic material for manual application, instant sealing property, slightly flexible when cured; 130 °C continuous use temperature; usable with rigid, heavily bolted ferrous metal or aluminum alloy flanges < 0.25 mm gap.

A6 Gel-like anaerobic material for silk screen or manual application; semi-hard when cured; 150 °C continuous use temperature, usable with rigid, heavily bolted ferrous metal or aluminum alloy flanges < 0.13 mm gap.

A7 Gel-like anaerobic material for silk screen or manual application; hard and rigid, when cured; 170 °C continuous use temperature; usable with rigid, heavily bolted ferrous metal or aluminum alloy flanges < 0.25 mm gap.

Date	Action	Revisions	
2011 09 27	Revised	Added WSS-M2G348-A11	Joachim Herl
2003 10 10	Revised	Added A14	W. Janitschke
1990 01 16	Released	EP00E01031538000	F. O. Swanson, J Schult

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A8 Gel-like anaerobic material for silk screen or manual application; hard and rigid, when cured; low strength, 150 °C continuous use temperature; usable with rigid, heavily bolted ferrous metal or aluminum alloy flanges < 0.20 mm gap.

A9 A gel-like material for automatic or manual application; very flexible when cured; 150 °C continuous use temperature; usable with metallic flange surfaces especially bimetal joints which are subject to movement caused by differing thermal expansion rates of the flange materials.

A10 A gel-like anaerobic non-shimming material for manual or automatic tracing application; slightly flexible when cured, 130 °C continuous use temperature, for heavily bolted rigid steel and aluminum alloy flanges, < 0.18 mm gap.

A11 Gel-like anaerobic material for automatic or manual application; very flexible when cured; 150 °C continuous use temperature; usable with rigid, heavily bolted flanges of ferrous metal or aluminum alloys; <0.13 mm gap.

WSK-M2G349 - Retaining

A3 A flowable anaerobic adhesive for gaps < 0.15 mm; hard and rigid when cured; 150 °C continuous use temperature; suitable for ferrous metal and aluminum alloys; secondary UV light cure (UVA, 100°mW/cm^2) enables instant solidification of excess adhesive outside bondline.

A4 A flowable anaerobic adhesive for gaps < 0.15 mm and interference fits; cures into a high strength rigid polymer; 150 °C continuous use temperature. Use with ferrous metal and aluminum alloys; for getting a faster initial fix, and a higher curing speed, an activator (e.g. WSK-M2G360-A) can be used. Use of an activator will reduce bond strength (see para 3.6.1 and 5.3).

A5 Similar to A4 but for gaps < 0.25 mm.

A7 A flowable anaerobic adhesive for gaps < 0.13 mm; has lubricating properties for interference fits; cures into a medium strength rigid polymer; 150 °C continuous use temperature.

A8 Similar to A4 but thicker, and usable for gaps < 0.25 mm.

A9 A flowable anaerobic adhesive for use in gaps < 0.38 mm; cures into rigid polymer; superior water glycol resistance; continuous use up to 200 °C. For getting a faster initial fix, and a higher curing speed, an activator (e.g. WSK-M2G360-A) can be used. Use of an activator will reduce bond strength (see para 3.6.1 and 5.3).

A10 A thick flowable adhesive for automatic spray application into cylindrical bores; cures into rigid polymer; gaps < 0.38 mm; continuous use up to 150 °C.

A11 Medium viscosity core plug adhesive sealant for high oil resistant properties for use up to 150 °C.

A12 A flowable anaerobic adhesive for use in gaps < 0.15 mm; cures into rigid polymer; superior for bonding slip-joints; temperature range of outer parts 100 to 180 °C; continuous use up to 180 °C.

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A13 A thixotropic anaerobic adhesive for high strength, high temperature sealing applications where non-migration is desired. Not for use on plastic parts.

A14 A flowable anaerobic high viscous adhesive for gaps < 0.15 mm and interference fits; cures into a high strength rigid polymer; 150 °C continuous use temperature. Use with ferrous metal and aluminum alloys; for getting a faster initial fix, and a higher curing speed, an activator (e.g. WSK-M2G360-A) can be used. Use of an activator will reduce bond strength (see para 3.6.1 and 5.3).

WSK-M2G350- Sealing

A1 A paste-like anaerobic material with PTFE for lubricated assembly of pipe threads; cures slowly to semi-hard material; 150 °C continuous use temperature.

A2 A paste-like anaerobic material with PTFE for lubricated assembly of pipe threads; low strength; semi-hard when cured; 150 °C continuous use temperature; slow cure allows adjustment of fittings after initial torquing. For getting a faster initial fix, and a higher curing speed, an activator (e.g. WSK-M2G360-A) can be used. Use of an activator will reduce bond strength (see para 3.5.1 and 5.3).

A3 A self hardening anaerobic adhesive sealant used to provide leak proof seals in applications such as joint between axle tube and cast center housing.

WSK-M2G351 - Threadlocking

A4 A flowable anaerobic adhesive; low strength when cured to allow serviceability of small fasteners < 6 mm diameter; lubricates fastener assembly; gaps < 0.18 mm; 140 °C continuous use temperature.

A6 A flowable anaerobic adhesive; high strength when cured for permanent locking of studs or fasteners; lubricates fastener assembly; gaps < 0.18 mm; 140 °C continuous use temperature.

A7 A thick anaerobic adhesive; high strength when cured for permanent fastener locking; gaps < 0.25 mm; 150 °C continuous use temperature.

A8 Similar to A7 except thixotropic and faster curing.

A9 Similar to A4 except thixotropic, faster curing, medium strength, allows serviceability of fasteners > 6 mm diameter; for gaps < 0.25 mm.

A10 A flowable thixotropic anaerobic adhesive; high strength when cured for permanent locking of studs or fasteners; lubricates fastener assembly; gaps < 0.25 mm; 150 °C continuous use temperature.

3. REQUIREMENTS

Material specification requirements are to be used for initial qualification of materials.

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

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

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3.4 VISCOSITY
(ASTM D1084, Method B at 23 +3/- 2 °C)

Type	Brookfield Model	Spindle	RPM	mPa.s
WSK-M2G348-Gasketing				
A1	RVF/RVT	5	20	6,500 - 13,000
A2	RVT*/HBT*	TC/TB	0.5 5	250,000 - 1,000,000 50,000 - 200,000
A4	RVT*/HBT*	TD/TB	0.5 5	500,000 - 2,000,000 150,000 - 400,000
A5	RVT*/HBT*	TC	0.5 5	3,000,000 - 4,500,000 500,000 - 1,000,000
A6	RVT*/RVT	TC/#6	0.5/2.5 5/20	70,000 - 120,000 23,000 - 35,000
A7	RVT*/HBT*	TC	0.5/2.5 5/20	200,000 - 1,000,000 40,000 - 200,000
A8	RVT*	TC	0.5 5	200,000 - 500,000 50,000 - 100,000
A9	RVT	7	2.5 20	130,000 - 250,000 30,000 - 100,000

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