ENGINEERING MATERIAL SPECIFICATION

Material Name	Specification Number
ADHESIVES, CYANOACRYLATE, (CA), METHYL	WSK-M2G401-A1/A4
ADHESIVES, CYANOACRYLATE, (CA), ETHYL	WSK-M2G402-A1/A11
ADHESIVES, CYANOACRYLATE, (CA), SURFACE INSENSITIVE	WSK-M2G403-A1/A4
ADHESIVES, CYANOACRYLATE, (CA), THICKENED, TOUGHENED	WSK-M2G404-A1/A5
ADHESIVES, CYANOACRYLATE, (CA), ALKOXY, LOW ODOR, LOW BLOOM	WSK-M2G405-A1/A4

1. SCOPE

The materials defined by these specifications are a series of solventless, room temperature curing cyanoacrylate adhesives.

2. APPLICATION

These specifications were released originally for single component industrial quality adhesives formulated for bonding all metals, most rubbers and many plastics.

WSK-M2G401 - Methyl Cyanoacrylates

A1 A thin penetrating methyl cyanoacrylate adhesive for use in gaps up to 0.05 mm, fast fixturing on metal surfaces, 82 C continuous use temperature.

A2 A low viscosity methyl cyanoacrylate adhesive for use in gaps up to 0.10 mm, similar to A1 in all other respects.

A3 A medium viscosity methyl cyanoacrylate adhesive for use in gaps up to 0.20 mm, slightly slower fixturing allows 15 second alignment time, similar to A1 in all other respects.

A4 A low viscosity methyl cyanoacrylate adhesive for use in gaps up to 0.10 mm, slightly slower fixturing, similar to A1.

WSK-M2G402 - Ethyl Cyanoacrylates

A1 A penetrating ethyl cyanoacrylate adhesive for use in gaps up to 0.05 mm, fast fixturing on plastic and rubber surfaces, 82 C continuous use temperature.

A2 A low viscosity ethyl cyanoacrylate adhesive for use in gaps up to 0.10 mm, similar to A1 in all other respects.

A3 A low viscosity ethyl cyanoacrylate adhesive for use in gaps up to 0.13 mm, somewhat higher strength, similar to A1 in all other respects.

A4 A medium viscosity ethyl cyanoacrylate adhesive for use in gaps up to 0.10 mm.

Date	Release No.	Release/Revision
1992 10 01	EP00E10176308000	Revised, added suffixes N.Adamowicz B.Lange
1990 08 01	EP00E01031538000	Released F.O. Swanson J. Schult

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A5 A medium viscosity ethyl cyanoacrylate adhesive for use in gaps up to 0.18 mm, slower fixturing, similar to A1.

A6 A medium viscosity ethyl cyanoacrylate adhesive for use in gaps up to 0.20 mm, similar to A5 in all other respects.

A7 A gel-like ethyl cyanoacrylate adhesive for use in gaps up to 0.25 mm, for porous or rough surfaces, somewhat slower fixturing, 80 +/- 2 C continuous service temperature.

A8 A penetrating, low strength, ethyl cyanoacrylate adhesive for use in gaps up to 0.05 mm where a temporary bond is desired.

A9 A medium viscosity ethyl cyanoacrylate adhesive for use in gaps up to 0.15 mm, slower fixturing, similar to A1.

A10 A medium viscosity ethyl cyanoacrylate adhesive designed for resisting thermal cycling from - 40 to + 120 C. Maximum continuous temperature 100 C. Exhibits better humidity resistance than standard instant adhesives.

A11 A gel-like ethyl cyanoacrylate for use in gaps up to 0.25 mm, similar to A10 in all other respects.

WSK-M2G403 - Surface Insensitive Cyanoacrylates

A1 A penetrating ethyl cyanoacrylate adhesive for gaps up to 0.05 mm and for plated parts, 80 +/- 2 C continuous service temperature.

A2 A low viscosity ethyl cyanoacrylate adhesive for gaps up to 0.10 mm and for low humidity during assembly, 80+/- 2 C continuous use temperature.

A3 A medium viscosity ethyl cyanoacrylate adhesive for gaps up to 0.15 mm and for mildly contaminated surfaces, 80 +/- 2 C continuous use temperature.

A4 A gel-like ethyl cyanoacrylate adhesive for gaps up to 0.25 mm, and for porous or rough parts, 80+/- 2 C continuous use temperature.

WSK-M2G404 - Thickened/Toughened Cyanoacrylates

A1 A medium viscosity toughened ethyl cyanoacrylate adhesive for gaps up to 0.15 mm, reasonably fast fixturing and good moisture resistance, approximately 105 C continuous use temperature.

A2 A medium viscosity toughened ethyl cyanoacrylate adhesive for gaps up to 0.15 mm, for high stress, and for environmental durability, slow fixturing, approximately 105 C continuous use temperature.

A3 A high viscosity toughened ethyl cyanoacrylate adhesive for gaps up to 0.20 mm, similar to A2 in all other respects.

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A4 A high viscosity toughened ethyl cyanoacrylate adhesive for gaps up to 0.25 mm and for porous or rough parts, approximately 100 C continuous use temperature.

A5 A gel-like toughened ethyl cyanoacrylate adhesive for gaps up to 0.25 mm, similar to A2 in all other respects.

WSK-M2G405 - Alkoxy Alkyl Cyanoacrylates

A1 A penetrating cyanoacrylate adhesive for gaps up to 0.05 mm, use where low odor and low blooming is desirable, use for bonding plastic and rubber substrates, approximately 70 C continuous temperature.

A2 A low viscosity cyanoacrylate adhesive for gaps up to 0.10 mm, similar to A1 in all other respects.

A3 A medium viscosity cyanoacrylate adhesive for gaps up to 0.15 mm, similar to A1 in all other respects.

A4 A gel-like cyanoacrylate adhesive for gaps up to 0.25 mm, similar to A1 in all other respects.

3. REQUIREMENTS

3.1 STATISTICAL PROCESS

Suppliers must conform to the requirements of Ford Quality System Standard Q-101. A mutually acceptable Control Plan as described therein is required for material/source approval. Appropriate statistical tools must be used to analyze process/product data so that variation in the final product is continuously reduced.

3.2 INFRARED SPECTROPHOTOMETRY AND/OR THERMAL ANALYSIS

Ford Motor Company, at its option, may conduct infrared and/or thermal analysis of material/parts supplied to this specification. The IR spectra and thermograms established for initial approval shall constitute the reference standard and shall be kept on file at the designated material laboratory. All samples shall produce IR spectra and thermograms that correspond to the reference standard when tested under the same conditions.

3.3 CONDITIONING AND TEST CONDITIONS

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

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