

Inspection Certificate (accordance to EN 10204 Type-3.1)

Product: ZChek 9E Black
Non-Fluorescent MPI Fluid

Batch No.: 201213

Mfg. Date: 12/20

We certify that the above product, when tested at the time of manufacturing meets the following requirements

- *ASME Boiler and Pressure Vessel Code 2010, 2013, 2017, 2019 Edition Section V, Nondestructive Examination including, Article 7, including 2005, 2006, 2008, 2009b and 2011a Addenda, paragraph T-731, paragraph T-765 and Article -25 as applicable.*
- *ASTM E 709-15 paragraph 2.2*
- *AMS-3041F, AMS 3043E, AMS 2641*

Parameter	Test Method	Quality requirement	Batch Result
Contamination	AMS 3041F-3.3.1	No foreign material, scum, or agglomeration	Confirms
Concentration	AMS 3041F-3.3.2	1.0-2.4 ml per 100ml	2 ml per 100ml
Sensitivity	AMS 3041F-3.3.3	6 Hole indication shown	6 Hole indication
Color	AMS 3041F-3.3.4	Black	Black
Particle size	AMS 3041F-3.5	< 2 % residue on 45 μ mesh	1.6 % residue on 45 μ mesh
Mechanical durability	AMS 3041F -3.6	Retain initial sensitivity and color	Confirms
Spray ability and leakage	AMS 3043E-3.4	No perceptible leakage. Uniform spray pattern and No chunking and clogging of the nozzle	Confirms
Viscosity	AMS 2641-3.2.2	< 3 cSt @ 38 deg. C	2.4 cSt @ 38 deg.C
Flash point	AMS 2641-3.2.1.1 Type-1	> 93 deg.C	102 deg.C
Odor	AMS 2641- 3.2.6	No offensive, No objectional odor	Confirms
Color	AMS 2641-3.2.7	Not darker than No.1 ASTM color	Confirms

- *ASTM E 1444/E 1444M-16, Paragraphs 5.5.2 and 5.5.3*
- *ASTM E 709-15, Paragraphs 8.1.2, 8.2, 8.3, 8.5 & 8.5.4*

- **EN ISO 9934-2-2015**

Parameter	EN ISO 9934-2	Quality requirement	Batch Result
Performance	7.1	Indication on Reference block-1 Reference block-2	Pass Length-6cm
Colour	7.2	Black liquid	Color identical
Particle size	7.3	$d > 1.5\mu\text{m}$ - $d < 40\mu\text{m}$	$d_l(10\%) = 20.1\mu\text{m} \Rightarrow 9.50\mu\text{m}$ $d_a = 13.90\mu\text{m}$ $d_u(90\%) = 15.38\mu\text{m}$
Flash point	7.7	Report as found	102 deg.C
Viscosity	7.9	Less than 5.0mPa @ 20deg.c	4.0 mPa @ 20 deg.C
Mechanical stability test Short term test	7.10	No degradation in sensitivity	Pass
Foaming	7.11	No significant foaming	Pass
Storage stability	7.13		3 years
Content of sulphur	7.15	< 200 ppm	25 ppm
Content of halogens (chlorine & fluorine)	7.15	< 200 ppm	49 ppm

1. Bulk material has a minimum shelf life of 5 years and Aerosol has minimum shelf life of 3 year.
2. EN ISO 9934-2 (7.15) specification require test results stated in ppm, but some require in percentage. To convert ppm to percentage, divide the ppm value by 10,000.

Signature
Manager Operations
Chaitra.M.N