

Inspection Certificate (In accordance with EN 10204 Type-3.1)

Product: ZChek -DL

Non-Aqueous Developer for Liquid Penetrant Inspection

Batch No.:2504106

Mfg. Date:04/25

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

- *ASME Boiler and Pressure Vessel Code 2004, 2007, 2010, 2013, 2015, 2017,2019,2021 and 2023Edition, Section V, Nondestructive Examination, including 2005, 2006, 2008, 2009b, and 2011a Addenda, Article 6 Paragraph T-641 and Article 24 as applicable.*
- *ASME Boiler and Pressure Vessel Code, 1995, 1998 and 2001 Edition, Section V Nondestructive Examination, including 1999,2000,2002 and 2003 Addenda, Article 6 Paragraph T-640 and Article 24 as applicable.*
- *ASME Boiler and Pressure Vessel Code, 1986, 1989 and 1992 Edition, Section V, Nondestructive Examination, Article 6 including 1992 Addenda, Paragraph T-625,1993 Addenda Paragraph T-640 and Article 24 as applicable.*
- *ASTM E165/E165M-23, Paragraph, 6.0,7.1,7.2,7.5,7.5.3,8.1,8.5,8.6,8.7,8.8,8.8.4.*
- *ATME1417-21, Paragraph, 5.1,7.2,7.2.1,7.3, 7.5,7.5.2.*

Parameter	ASME Boiler & PV Code	Quality requirement	Batch Result
Sulfur	Sec.V	< 0.1 %	0.0021 wt % of residue
Chlorine + Fluorine	Sec. V	< 0.1 %	0.0030 wt % of residue

- *IS 3658-2013.*
- *We further certify that the product meets the requirement of AMS 2644H and is approved by the U.S. Air Force and listed on QPL-AMS-2644.*
- *When tested according to paragraph 4.3.2, Sampling Plan A, the following test results were obtained:*

4.2.2.3. Developer Tests.

Parameter	Section	Quality requirement	Batch result
Developer Fluorescence	3.3.10.2	Shall exhibit no green yellow fluorescence	Pass
Developer Removability	3.3.10.4	Shall be easily removed	Pass
Developer Redispersibility	3.3.11.2	Shall be readily suspended	Pass



• **EN ISO 3452-2-2021.**

Parameter	EN ISO 3452-2	Quality Requirement	Batch result
Appearance	6.1	Equal to standard	Pass
Sensitivity Test	6.2	Equal to standard	Pass
Corrosive properties	6.11	No evidence of staining, pitting or any other corrosion on Magnesium Alloy	Pass
Sulfur Content	6.12	< 200 ppm	21 ppm
Halogen Content	6.12	< 200 ppm	30 ppm
Solid Content	6.13	13.5-16.5 gm	14.28 gm
Developer Performance	6.15	Equal to standard	Pass
Re-dispersibility	6.16	Readily dispersed	Pass
Density of carrier fluid	6.17	0.76-0.84 g/cc @29.5 deg.C	0.78g/cc@29.5 deg.C

• **Internal quality Check.**

Parameter	Internal Check	Quality Requirement	Batch Result
Spray pattern	QC/TP/003	Equal to standard	Pass
Settling rate	QC/TP/030	<2 ml	1 ml

Notes

1. Bulk material has a minimum shelf life of 5 years and Aerosol has minimum shelf life of 3 years.
2. Most specifications require test results stated in percent, but some require parts per million (ppm). To convert percent to ppm, move the decimal four places to the right.
3. ASME Sec V, procedure states that to evaporate off volatile solvents before analysis for Sulfur and Halogens. According to these specifications, only those residues higher than 0.005 g/100ml shall be analyzed for Sulfur and Halogens. Lower residues shall be reported.

Signature
Quality Chemist

