



Gesellschaft für chemische Materialien spezieller Photoresistsysteme mbH

— CERTIFICATE OF ANALYSIS AND QUALITY FOR —

NEGATIVE TONE PHOTORESIST

**ma-N 1410**

**Lot No.:** 52525

**Manufactured:** 04 / 11 / 2025  
(dd / mm / yyyy)

**Expiration:** 03 / 11 / 2026  
(dd / mm / yyyy)

	Unit	Specification	Result
<u>Resist solution</u>			
Appearance		yellow-brown liquid	conforms
Filtration Level	[ $\mu\text{m}$ ]	0.2	conforms
<u>Physical parameter</u>			
Density at 20°C DMA 500	[g/cm <sup>3</sup> ]	1.050 $\pm$ 0.002	1.050
Viscosity $\eta$ at 25 °C, measured with rheometer	[mPa·s]	10 $\pm$ 1	9
Refractive index $n_D^{20}$ at 20 °C		1.525 $\pm$ 0.002	1.525
<u>Lithographic parameters</u>			
Film thickness (FT) after spin coat and prebake at 3000 rpm at 2200 rpm	[ $\mu\text{m}$ ]	1.00 $\pm$ 0.05	1.01
	[ $\mu\text{m}$ ]	1.20 $\pm$ 0.06	1.18
Film thickness after lithographic process (resist spin-coated at 2200 rpm)	[ $\mu\text{m}$ ]	1.15 $\pm$ 0.06	1.13
Exposure dose for FT = 1.2 $\mu\text{m}$	[mJ/cm <sup>2</sup> ]	350 $\pm$ 30	350
Intensity at 365 nm	[mW/cm <sup>2</sup> ]	10.5 $\pm$ 0.5	10.0
Exposure time	[s]	33 $\pm$ 3	35
Developing time $t_D$ for FT = 1.2 $\mu\text{m}$ , <u>ma-D 533/S # 51825</u>	[s]	35 $\pm$ 5	32
Developing time $t_D$ for generation of an undercut of 0.65 $\pm$ 0.10 $\mu\text{m}$ for FT = 1.20 $\mu\text{m}$ , determined at a pattern size of 50 $\mu\text{m}$	[s]	65 $\pm$ 5	65
Undercut for FT = 1.2 $\mu\text{m}$ for 65 s, determined at a pattern size of 50 $\mu\text{m}$	[ $\mu\text{m}$ ]	0.65 $\pm$ 0.10	0.65
Critical dimension CD for FT = 1.2 $\mu\text{m}$	[ $\mu\text{m}$ ]	50.0 $\pm$ 1.5	50.2

All lithographic data have been obtained using a Suss MA 56 mask aligner.  
The data above are certified by

*B. Wiesner*  
Britt Wiesner  
Production manager

*Marina Heinrich*  
Marina Heinrich  
Lithography manager

**Confidential**

We declare to be the original manufacturer of the product listed above.

We give a guarantee for the product listed above for 12 months, if stored in original sealed bottle.

*Sylvia Herrndorf*  
Dr. Sylvia Herrndorf  
Quality Manager

The values stated in this certificate were determined thoroughly to the best of our knowledge. Changes in quality are possible due to incorrect handling or storage. We have no influence on these changes. Therefore this certificate has no legal relevance.

Rev.: 05/25

www.microresist.com

Berlin, November 20, 2025

Registergericht / Register court: AG Berlin Charlottenburg  
Registernummer / Register Number: HRB 47424

Geschäftsführung / Management Board:  
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