

VA Application Note No. V - 184

Title: Determination of leveler «Top Lucina α -3» in acid copper baths by response curve technique (RC) (Okuno Chemical Industries)

Summary: Determination of leveler «Top Lucina α -3» in acid copper baths by response curve technique (RC) using cyclic voltammetric stripping (CVS).

Sample: Acid copper electroplating bath

Sample preparation: None

Analysis of leveler «Top Lucina α -3»

Electrolyte Virgin make-up solution (VMS)
CuSO₄, H₂SO₄ and NaCl concentrations according to supplier specifications.

Measuring solution **Electrolyte solution**
24.5 mL VMS
+ 0.5 mL RC saturated solution

Sample
25 mL acid copper plating bath
+ 0.5 mL RC saturated solution

Working electrode (WE) **Pt-RDE:**
Drive shaft 6.1246.000
+ Pt tip for CVS 6.1204.160

Auxiliary electrode (AE) **Pt** 6.0343.000

Reference electrode (RE) Reference system: Ag/AgCl/KCl (3 mol/L) 6.0728.020
Intermediate electrolyte: KNO₃ sat.:H₂O (3:1) 6.1245.010

Parameters	Working electrode	
	RDE (hydrodynamic measurement)	
Stirrer speed	2000 rpm	
Mode	CVS	
Calibration technique	RC	
Start potential	1.625 V	
First vertex potential	-0.175 V	
Second vertex potential	1.625 V	
Voltage step	0.006 V	
Sweep rate	0.1 V/s	
Peak potential (Cu)	0.2 V \pm 0.2	

Determination of leveler «Top Lucina α -3»

