

# Operational analysis in the metal industry

**A) Determination of total heavy metal content**, as required by legislation concerning wastewater or self-monitoring

**Homogenise the sample** with a magnetic stirrer for 60 sec. at a speed at which the vortex is about 10 % below the surface of the liquid

Crack Set LCW 902

Chromium LCK 313  
(digestion takes place in the measurement cuvette)

Total silver digestion LCW 954

Lead LCK 306

Cadmium LCK 308

Iron LCK 321  
LCK 521\*

Copper LCK 329  
LCK 529

Nickel LCK 337  
LCK 537

Zinc LCK 360

Tin LCK 359

Silver LCK 354  
LCK 355

\* In the case of LCK 521, a reagent blank value must be determined after the digestion (see Work Procedure: "Reagent blank value" LCW 902 /LCK 521)

**B) Determining the soluble fraction** of the heavy metal

**Filter the sample** (with membrane filtration kit LCW 904 (1.45 µm) or LCW 916 (0.45 µm))

Lead LCK 306

Cadmium LCK 308

Iron LCK 321  
LCK 521

Copper LCK 329  
LCK 529

Nickel LCK 337  
LCK 537

Zinc LCK 360

Chromium LCK 313  
Cr(VI)

Tin LCK 359

**What should I do if...?**

**... the sample is coloured?**

See document A130 "Sample-specific blank value" and A122 "Sample-specific blank value for zinc"

**C) Verifying the analysis results**

Double determination

Measure a standard solution (ADDISTA)

Plausibility checks

- Measurements at different dilutions
- Spike sample with standard (ADDISTA)



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