

## METAL RECOVERY ENERGIZED BY

**LANXESS**  
Energizing Chemistry

**X Lewatit®**

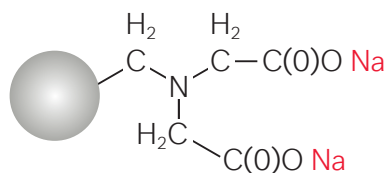
## LEWATIT® MONOPLUS TP 209 XL – HIGH RESISTANCE

A tailor-made resin for metal recovery from pulps (RIP processes)

### New approach

Lewatit® MonoPlus TP 209 XL is a monodisperse imino-diacetic acid chelating resin and the latest member of the TP specialties family. Compared with other IDA resins such as Lewatit® MonoPlus TP 207 it has a bigger particle size (ca. 0.84 mm) and a higher total capacity (>2.4 eq./l). Its special macroporous styrene/DVB co-polymer structure results in high mechanical stability. Thus Lewatit® MonoPlus TP 209 XL is especially suited for the recovery of metals such as copper, cobalt, and nickel from pulps.

### Lewatit® MonoPlus TP 209 XL



### Key features

- Rigid polymer matrix to endure mechanical stress in RIP operations
  - Less resin loss during operation due to breakage
  - Longer lifetime
  - Reduced top-up volumes
- Bigger bead size to ease resin separation from pulps through sieving
- Higher operating capacities for base metals
- Fast kinetics during adsorption and elution
- Good osmotic stability
- Lower pressure drop in fixed-bed operations

The improved polymer backbone with a higher degree of cross-linkage leads to an enhanced mechanical durability towards abrasion and attrition as they can occur while resins are pumped, sieved, or stirred with pulps during hydro-metallurgical operations.

The mechanical resistance is demonstrated by two different test methods, i.e., the hydropneumatic piston and the Jacolga ball mill test (Scheme 1). Both simulate the forces ion exchange resins are exposed to during RIP processes.

# LEWATIT® MONOPLUS TP 209XL

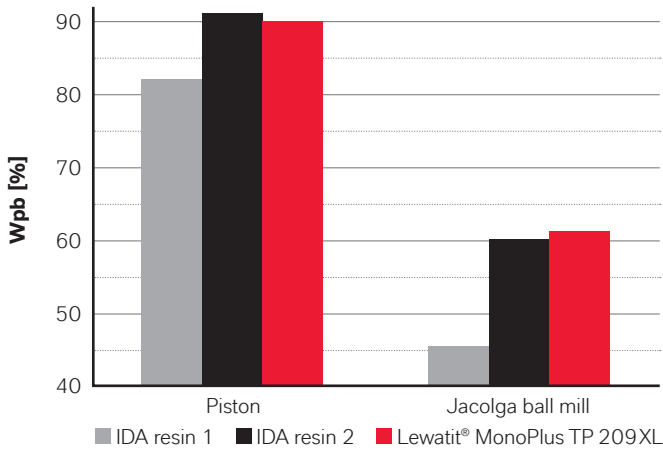
## HIGH RESISTANCE



**Scheme 1:** The hydropneumatic piston (9,000 cycles) and the Jacolga ball mill test. The y axis expresses the remaining percentage of whole perfect beads (wpb) at the end of each run.

At the same time, Lewatit® MonoPlus TP 209XL has a significantly higher capacity for heavy metals than conventional IDA resins.

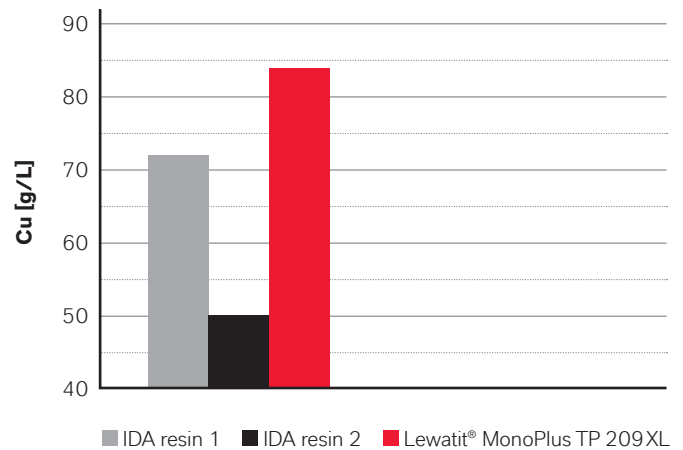
### Mechanical stability



Scheme 2 illustrates the benchmark results for the copper adsorption in batch tests. Under the described test conditions, copper operating capacities of more than 80 g/l were found.

**Scheme 2:** The equilibrium copper capacity in comparison  
 Test conditions: [Cu] = 3 g/l  
 Resin: solution ratio = 1:50, pH = 3, contact time = 24 h

### Equilibrium copper capacity



### Contact

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