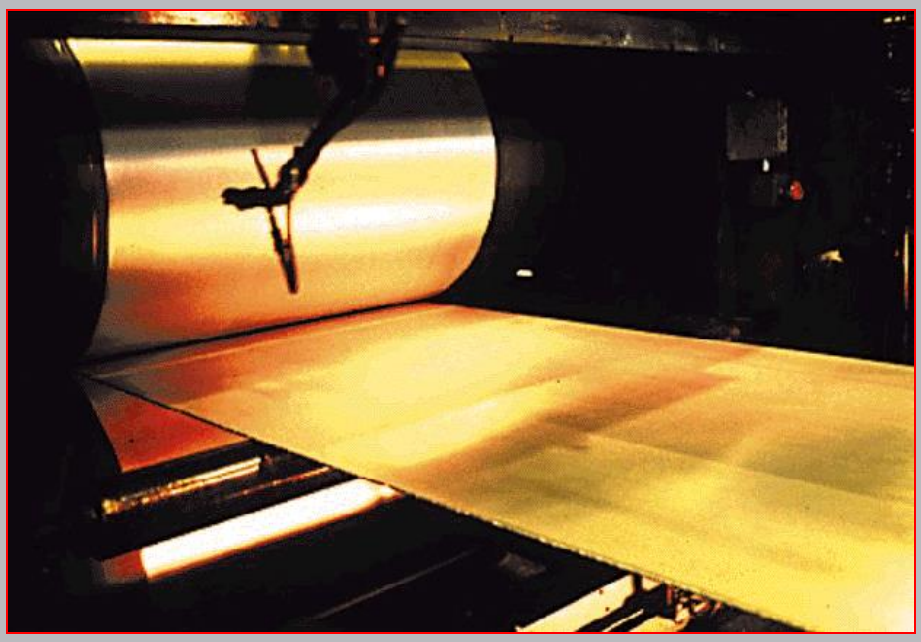
H.C. CARBON GmbH

Releasing and lubricating dispersion for continuous aluminum roll casting

MECHANO-LUBE® 1VP1357



H.C. CARBON GmbH
Ziegelstrasse 7
91126 Rednitzhembach
Tel.: +49(0)911 475859-0
Fax.: +49(0)911 475859-49
E-Mail: info@hc-carbon.de
www.hc-carbon.de

H.C. CARBON GmbH

H.C. Carbon GmbH specialized mainly in water-based lubricants. With over 30 years of experience in the field of carbon and its application, we are able to produce high-performance lubricants using the latest technologies. With our knowledge and exceptional service, we face up to increasingly demanding and complex processes.

We always follow the basic idea in all our developments:

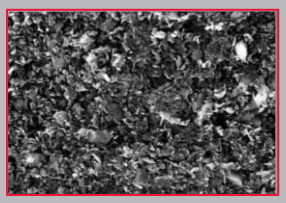
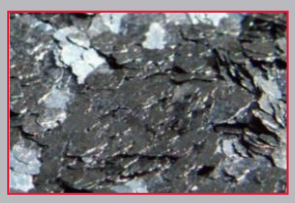
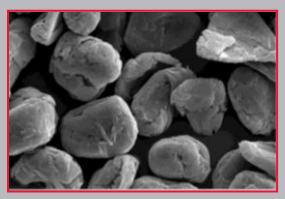
"As much chemistry as necessary, as little chemistry as possible."

This means

- All our lubricants are water-based.
- We do not use any oil products.
- All our lubricants are VOC- and APEO-free.
- We do not use ammonia.
- We consider the health risk posed by decomposition products and dust during use.

What makes us different?

- We only use high-purity crystalline graphite.
- Thanks to our MECHANO-DESIGN® grinding technology, we can not only adjust the particle size, but also the particle shape.

- We have found a unique combination between the chemical additives and the manufacturing process.

Advantages for you:

- Good adhesion on the rolls.
- Immediate wetting of the surface.
- Perfect releasing and lubricating properties.
- Closing the pores of the rollers.
- Perfect heat transfer.
- Suitable for all spraying systems (air spraying, airless spraying).
- No nozzle or pipeline clogging.
- No toxic decomposition compounds.

We have studied the way roll casting works. Some companies are working with sooting flames and other companies working with spaying systems as a releasing method. We have developed a product based on these findings. We learned a lot.

Why are there so many problems with flame treatment?

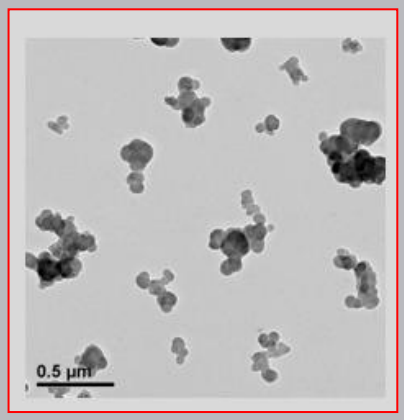
Sooting flames produce soot (carbon black). Depending on the setting, different types of soot are produced and deposited on the roller. As the flame never burns uniformly the following problems arise:

- Different soots.
- Different temperature.
- Differently coated areas.
- Different adhesion on the roll.

We explain this with the following pictures:

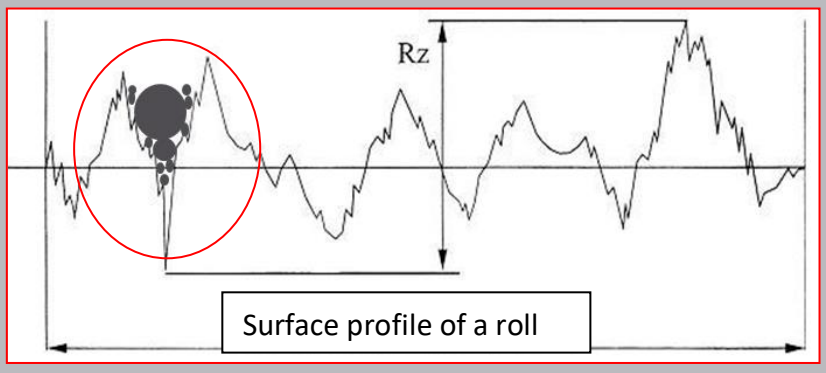
If you remove the oxygen from a gas flame, the flame produces soot (carbon black).

As you can see on the right picture the carbon black particles are not uniform.



Why is particle size distribution so important?

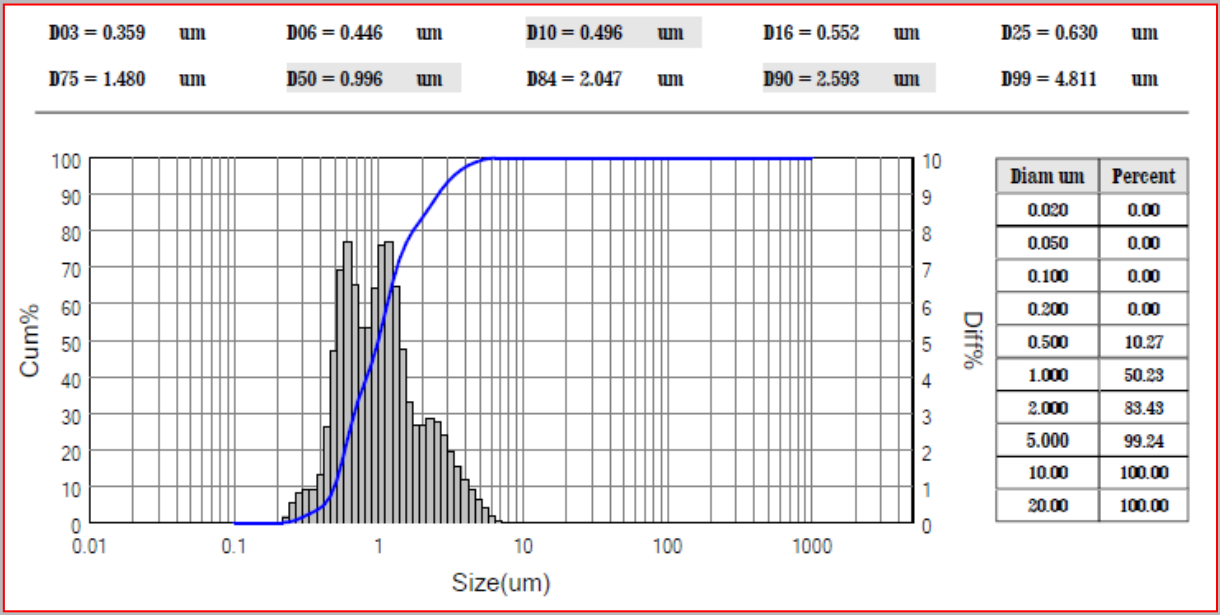
All rollers have different surface roughness. Roughness is a component of surface texture. This so-called surface roughness arises from the effect a machining or finishing process has on the surface. The same applies for plated rollers. A good releasing agent must be suitable for all surfaces. See the next picture.



Closing the pores with graphite particles of different sizes.

MECHANO-LUBE® 1VP1357 is composed to behave neutrally towards all alloy components in aluminum such as magnesium.

Typical particle size distribution of MECHANO-LUBE® 1VP1357. We set the top cut at 5µm.



Diam um	Percent
0.020	0.00
0.050	0.00
0.100	0.00
0.200	0.00
0.500	10.27
1.000	50.23
2.000	83.43
5.000	99.24
10.00	100.00
20.00	100.00

Stabilization is the key, not only for the storage of the concentrate but especially when it is diluted with water.

H.C. Carbon developed a stabilization aid based on steric stabilization to avoid agglomerates. This is important for dilutions ratios of 1:100 or even higher.

Forms of delivery.

1100 kg IBC

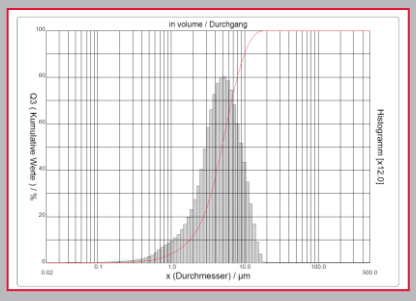
220 kg Steel barrels

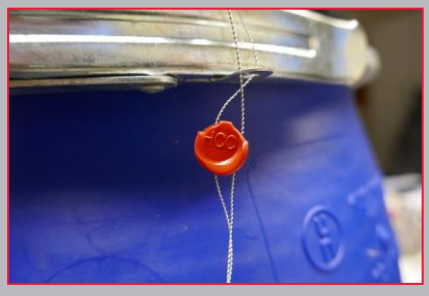
25 kg Pails

Our service.

- On request, we can accompany the tests and help you with optimization. Free of charge, of course.
- We will help you with the analysis (determination of the actual dilution ratio).

Quality control.





- All our products are final filtered to avoid impurities.
- We provide a certificate of analysis for each batch.
- After analysis, the containers are sealed.
- We retain a retained sample for each batch for 3 years.

“We look forward to supporting you.”