SPECIAL PROCESSES

SELECTIVE GRINDING

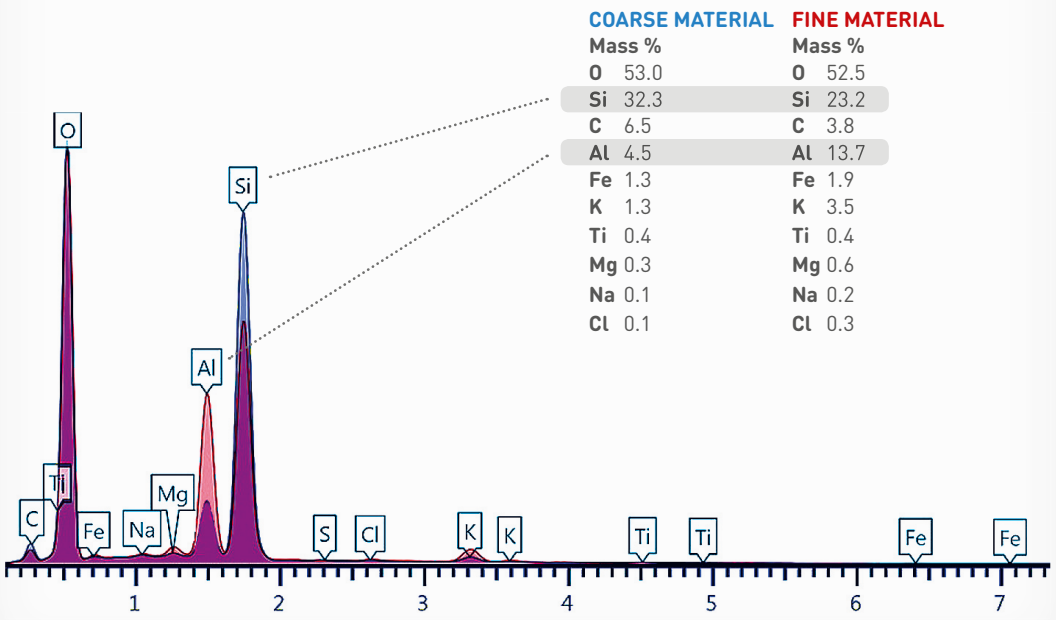
NOLL® Finest processing places you first.

Reducing wear-and-tear components.

Goals. Product purity – by decreasing the amount of high-density, wear-and-tear materials like silicon or quartz (Mohs hardness 6.5) – as well as a specific grain spectrum.

Equipment. Specially designed for such difficult demands: DemiNo®, the patented impact jet mill, is used for the deagglomeration up to Mohs hardness 9 and micronisation up to Mohs hardness 7 – including easily depositing and gluey substances. It can be flexibly equipped with a variety of impact elements (ceramic, cast and stainless steel, hard metal). With its rotational speed of only 120 m/s, it features low-energy consumption. In the first step of the reduction process, DemiNo® takes over the deagglomeration of the product. Our dynamic air classifier SeparaNo® then serves as fractionizing unit (until Mohs hardness 10), extracting the wear-and-tear components.

Processing example. The processing of clay powders which are used in a great variety of industries and technologies, for example in catalysts, oil binders or as fillers in the synthetics industry. The purity of the clay powders along with the defined, deagglomerated structure of nano particles <3000 nm is indispensable for the compact molding of high-quality synthetic components. It avoids high wear and tear of the extruder tools.



COARSE MATERIAL		FINE MATERIAL	
Mass %		Mass %	
O	53.0	O	52.5
Si	32.3	Si	23.2
C	6.5	C	3.8
Al	4.5	Al	13.7
Fe	1.3	Fe	1.9
K	1.3	K	3.5
Ti	0.4	Ti	0.4
Mg	0.3	Mg	0.6
Na	0.1	Na	0.2
Cl	0.1	Cl	0.3

50%

Regaining precious material using MultiNo®-M/S/M. Example nitride: we achieve a 50% waste reduction. The valuable raw material can be re-used for surface coating purposes.

CONTACT

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SPECIAL PROCESSES

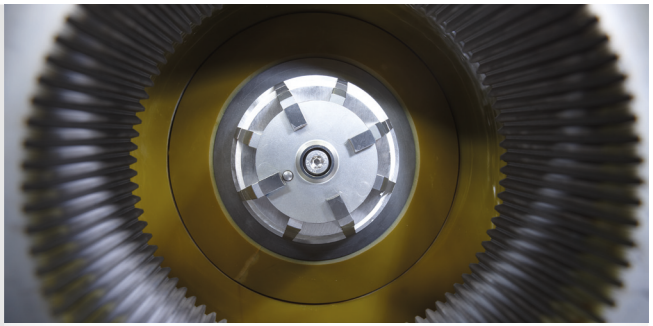
INERT GAS GRINDING

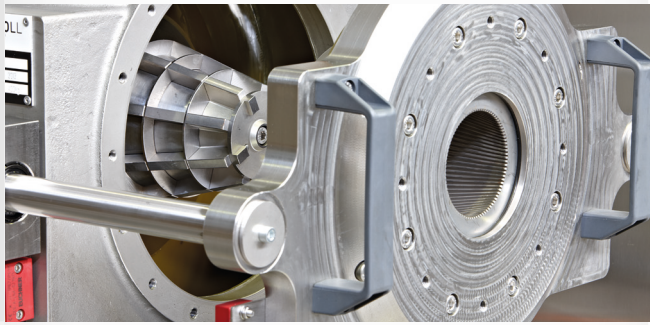
NOLL® Finest processing places you first.

PROCESSING UNDER INERT GAS. SAFETY AND EXPERIENCE.

Optimized in three decades of NOLL's practical experience: processing in an inert protective medium. Under nitrogen or – for special materials and refinement – under argon. We've set highest safety standards to prevent the risk of inflammation, explosion and fire. Depending on product and processing technique, the oxygen range in the protective atmosphere is maximally 5% until far below 1%.

All NOLL systems – the opposed jet mills of the MultiNo® series, the dynamic classifiers of the SeparaNo® series as well as our impact jet mill DemiNo® – can be operated under inert atmosphere. In practice, MultiNo® mills and high-speed DemiNo® are most often used. We apply cost-efficient gas circulating techniques, where minimal quantities of fresh nitrogen or argon are continuously fed into the system during processing. Even our smallest systems, the technical laboratory machines, are available as special models with protective gas equipment. Here, in addition to circulating gas, the flow gas method is applied.





DemiNo® 3125 with special inert gas equipment
Ideal for testing or small quantity production: impact jet mill DemiNo® 3125, the technical laboratory machine. Available as a standard model with inert gas equipment.

FLOWSHEET DEMINO®

INERT GAS PROCESSING: PRODUCT SURVEY

- Metals
- Rare earths
- Aluminum
- Magnesium
- Organic materials
- Foodstuffs
- Other products and applications on demand.

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