

Lubrication of functional parts at aluminium casting forms

MoS₂ Powder, microsize



Aluminium belongs to the materials of the future. Aluminium makes an important contribution to reducing the weight of machines. Intelligent processing and design processes nowadays make even lighter parts possible at the same or even higher stability. In addition to aluminium's simple extraction of the raw material it is also easy to recycle.

Many of these parts are manufactured by casting. Liquid aluminium is cast into the desired form. Preformed sand cores within the form provide the desired structure to the part. Modern manufacturing processes ensure low tolerances of the cast parts so that expensive subsequent machining becomes redundant to a great extent.

Advantages and benefits

- Prevents friction and wear, in a wide temperature range and at high pressures
- Good adhesion on extremely precision-machined surfaces
- Highly effective due to the strong affinity of the MoS₂ for metals
- Minimal consumption through formation of extremely thin films
- Not electrically conductive and anti-magnetic
- Chemically stable, except against halogen gases and concentrated sulphuric and nitric acid



Product description

OKS 111 is based on OKS 110 MoS₂ powder, microsize. A natural wax has been added to make it suitable for processing with a spray can. This holds the powder reliably on the sprayed surface and ensures that a dust cloud does not arise during spraying. This wax does not impede the depositing of the MoS₂ on metal surfaces and evaporates residue-free at high temperatures.

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Example of use: MoS₂ Powder, microsize



Picture 1



Picture 2



Picture 3



Picture 4

OKS 111 is used in the mould and die production of an aluminium works for initial lubrication of the slideways (picture 1), ejector pins (picture 2) as well as all the other OKS 111 MoS₂ Powder, microsize moving parts of the casting forms (picture 3). These prepared forms are then stored until they are used.

In the actual production process OKS 111 is used as a universal lubricant. Here too the slideways, ejector pins and all the other moving parts are re-lubricated regularly with OKS 111. Similarly OKS 111 is used to lubricate the guides and various mechanisms of the production machines.

All three applications have in common that conventional lubricants based on oil can no longer be used due to the high temperatures. A pure MoS₂ powder, such as OKS 111, can be used at temperatures up to 450 °C without vapours arising (picture 4). In addition to reliable lubricating of all the mechanisms which are subject to high temperatures, OKS 111 has also proven itself as a parting agent at extremely deep recesses of the forms. To this purpose the corresponding points of the sand form are sprayed evenly and thinly

with OKS 111 before casting. This ensures residue-free removal of the core in the form after casting (picture 5).

Further OKS products for use in aluminium manufacturing

In addition to the applications mentioned above for OKS 111, the entire range of OKS speciality lubricants can be used for the maintenance and servicing of the plants and the plant equipment. Whether as cleaners of electrical contacts, compressed-air or cooling spray for the electrical department, rust removers, cleaners, mounting pastes or greases for servicing and maintenance of machines or also as chain spray for hoisting chains at cranes or fork lifts – there are plenty of possible applications and examples.



Picture 5