



Technical Information

AUTOSOL® Metal Polish



Nonfood Compound
Program listed A7
(Registration #140759)

Product information

AUTOSOL® Metal Polish is a world-famous and internationally awarded polishing, cleaning and care product for all metallic surfaces, such as chrome, stainless steel, aluminium, copper and brass. Even stubborn surface dirt can be easily and gently removed. Through the balanced formulation of the high-quality active substances, effective protection is applied to the treated metals and alloys in one step.

Polishing alumina are exclusively used as abrasives in AUTOSOL® Metal Polish. There is a big advantage of aluminium oxide (Al_2O_3) in comparison with polishing agents that are found in nature (such as pumice ($\text{SiO}_2/\text{Al}_2\text{O}_3$) limestone, magnetite, hematite and quartz). Aluminium oxide is a synthetic product, which is reproducible from yellow-brown bauxite, based on its chemical composition and physical characteristics. Polishing alumina therefore have a consistent product quality.

α -polishing alumina ($\alpha\text{-Al}_2\text{O}_3$) are white powders with a slightly trickling or granular flow property. Aluminium oxide is available here in a hexagonal, coarse crystalline modification. The individual polishing particle consists of agglomerates that are comprised of disk-shaped, primary crystals (Figure 1). Through variations in the manufacturing process, the characteristics of polishing alumina that are crucial to the polishing process, such as hardness, abrasion, polishing effect, grain size distribution and oil absorption, can be influenced in a targeted manner.

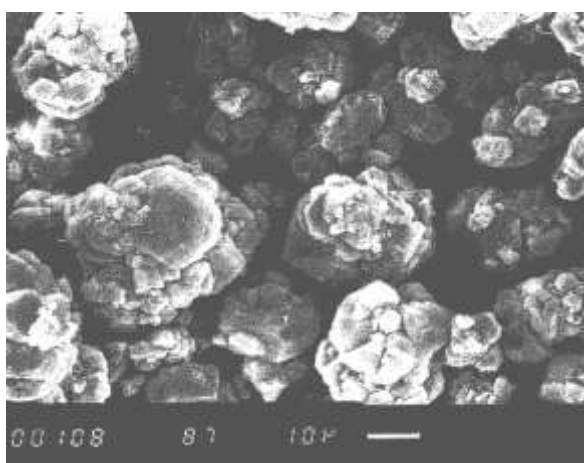


Fig. 1: Electron microscope images of hexagonal polishing alumina ($\alpha\text{-Al}_2\text{O}_3$)

As temperatures of between 500 and 1000°C and above can occur during the polishing of metal surfaces in the pm-range (1 pm = 10-12m), the "customising" of the polishing alumina is of great importance. The temperature peaks are sufficient to cause melting of the metal at



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the contact points with the polishing granule (example: Figure 2). Ultra-microscopically fine, moveable film, now flows across during the polishing process and into the scratches, grooves and small bumps in the metal surface, until levelling is achieved that is as extensive as possible (Figure 3). - Note: Of course, the high local temperatures only occur for an extraordinarily short period of time and are not noticeable for the user; the majority of the metal remains more or less cold.

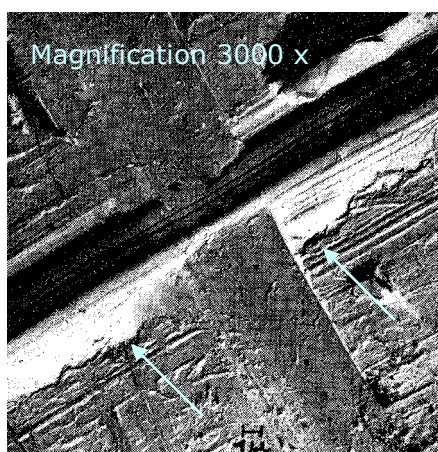


Fig. 2: Plastically deformed Steel surface

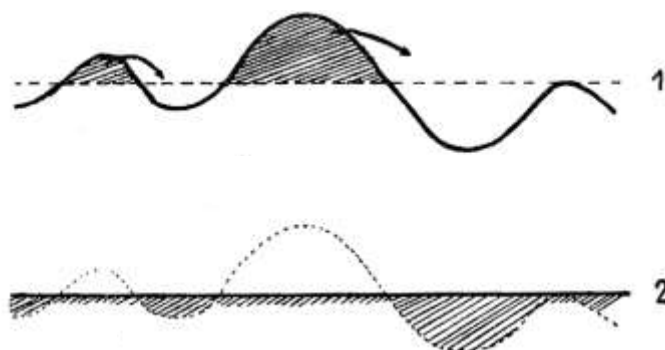


Fig. 3: Schematic illustration of the perfect polishing process

The success, i.e. the achievement of a surface that is as smooth as possible through polishing, depends crucially on the right choice of abrasive, as every metal and every alloy has a different breaking point, from where the metal will no longer "flow" into the adjacent groove, but rather, is removed. Hard metals, such as iron and chrome have a lower breaking point than, e.g. aluminium, copper or brass.

AUTOSOL® Metal Polish contains α -polishing alumina (α -Al₂O₃) that are characterised by low metal removal [a value of 2 on a scale from 1 (very low) – 10 (very high)] and a relatively high polishing effect [values of 8 – 9 on a scale of 1 – 10]. The unique combination of polishing particles allows use on a large series of metals and alloys, as its working range is within the highest and lowest breaking point of these metals/alloys. Quintessentially, AUTOSOL® Metal Polish provides an excellent polishing and cleaning result with homogeneously shiny metal surfaces.

Application areas

The application possibilities for the AUTOSOL® Metal Polish metal cleaning and metal care products are very wide-ranging and include industrial/professional fields of application (hard chrome rollers, shape parts ... transport operations, hotels, restaurants) and extend to use by



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private consumers for the care of automobiles and bicycles, over yacht railings, right up to many fields of application in the home (kitchen, sanitary area ...).

AUTOSOL® Metal Polish is NSF® Registered for use in and around food processing areas.

How to use

Apply AUTOSOL® Metal Polish to the items to be polished or cleaned and polish with a soft cloth, using circular movements. After a briefly allowing to dry, remove the polishing residue with a clean, soft cloth.

Technical Data

Form: pasty
Colour: white
Odour: charakteristic

Health and safety

Safety Data Sheet is available separately.

Additional Information

Art.-No.: 01 001000	tube 75 ml	packaging unit: 24
Art.-No.: 01 001100	tin 750 ml	packaging unit: 6

The information provided in this Technical Information is based on the current status of knowledge and experience and is intended to describe the products with respect to possible applications and safety requirements. This information does not represent a legally binding assurance of specific characteristics. A legally binding assurance of specific characteristics or suitability for the concrete purpose of use cannot be derived from our information. Possible trademarks and existing legislation and stipulations are to be observed by the recipient of our products under his/her own responsibility.