



Oxide Polishing Suspensions for Your Final Polishing Needs

- Perfect surface finish
- Fast and economical
- Regular and NonDry formulations



Improve Your Polishing Results

Boost polishing efficiency and ensure deformation-free results with Struers' complete line of active oxide polishing suspensions developed to meet your unique requirements for a perfect surface finish – fast.



Duplex stainless steel, etched electrolytically using 40% aqueous sodium hydroxide solution. Differential Interference Contrast, 100x.



Final polishing

A perfect surface finish is a requirement in most materialographic specimen preparations. The requirements to purity, cleanliness, equal distribution of alloying elements and phases are increasingly important in today's world of high-tech products and complex materials.

A perfect surface cannot be achieved by mechanical abrasion alone, as some level of deformation will always be created. Sole chemical material removal produces relief between various phases.

Perfect surface finish

Struers' oxide polishing suspensions combine chemical activity with fine, gentle abrasion to produce an absolutely scratch-free and deformation-free surface. The abrasives and chemical reagents have been carefully selected to produce the necessary surface quality for specimen examination.

Fast and economical

The active oxide suspensions react chemically with the surface of the specimen, building a reaction layer which is relatively brittle. The brittle layer is removed by the very small abrasive particles in the suspension. This mechanism is repeated continuously, resulting in a very high removal rate.

No drying up in dosing tubes

With Struers' NonDry suspensions you can be sure to minimize the risk of unexpected interruptions due to dried up suspension.

Your polishing processes can stop and start without having to flush dosing tubes or clean dosing bottles every time. Furthermore, the NonDry formulation remains in a liquid format – reducing the risk of damaging crystals embedded in your polishing cloths.

Tests have shown that standard formulations dry out very fast, but also competitors' non-crystallizing suspensions evaporate and are completely dry in less than one week. Struers NonDry suspensions remain liquid and evenly distributed even after one week.

Test: Struers OP-S/OP-U NonDry vs. competitive non crystallizing suspension

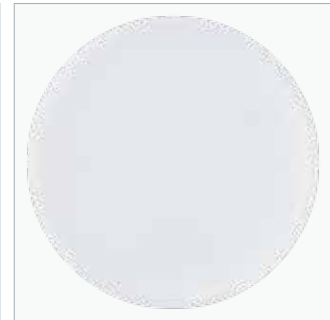
After 1 week



Struers regular OP-S.



Struers OP-U NonDry.



Struers OP-S NonDry.



Competitor 1, regular oxide susp.



Competitor 1, non crystallizing oxide susp.



Competitor 2, non crystallizing oxide susp.

Active oxide polishing provides the best possible surface finish

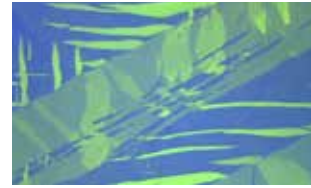
- OP-S NonDry/OP-S for very ductile metals
- OP-U NonDry/OP-U for heterogeneous non-ferrous metals or composites



OP-S NonDry/OP-S

OP-S NonDry/OP-S is especially suited for polishing of very ductile metals like refractory metals, aluminium, titanium*, tungsten, copper and other materials such as silicon. It can also be used with the addition of reagents, normally used for the etching of the material in question. This increases the chemical activity, thus shortening the actual polishing time.

*For the preparation of titanium we recommend using regular OP-S.



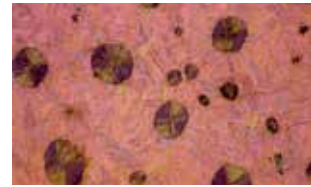
ZnCuTi alloy.
Polarized Light
with sensitive
tint plate, 200x.

Method 1	Plane Grinding	Fine Grinding	Diamond Polishing	Diamond Polishing	Oxide Polishing
Surface	MD-Gekko	MD-Plan	MD-Dac	MD-Mol	MD-Chem
Abrasive	SiC # 220	DP-Suspension, P - 9 µm	DP-Suspension, P - 6 µm	DP-Suspension, P - 1 µm	OP-S NonDry/OP-U
Lubricant	Water	DP-Lubricant, Blue	DP-Lubricant, Blue	DP-Lubricant, Red	-

Method 2	Plane Grinding	Fine Grinding	Diamond Polishing	Diamond Polishing	Oxide Polishing
Surface	MD-Piano 220	MD-Plan	-	MD-Mol	MD-Chem
Abrasive	Diamond	DiaPro Plan	-	DiaPro Mol	OP-S NonDry
Lubricant	Water	-	-	-	-

OP-U NonDry/OP-U

OP-U NonDry/OP-U is less aggressive than OP-S NonDry and suitable for all materials. Best results can be achieved with heterogeneous non-ferrous materials and composites. Different phases are evenly polished, resulting in samples with a very good planeness.



Austempered
ductile iron, Pol.
Light, etched
with 3 % Nital,
200x.

Method 1	Plane Grinding	Fine Grinding	Diamond Polishing	Diamond Polishing	Oxide Polishing
Surface	MD-Gekko	MD-Largo	MD-Dur	MD-Mol	MD-Chem
Abrasive	SiC # 320	DP-Suspension, P - 9 µm	DP-Suspension, P - 6 µm	DP-Suspension, P - 3 µm	OP-U NonDry/OP-U
Lubricant	Water	DP-Lubricant, Blue	DP-Lubricant, Blue	DP-Lubricant, Red	-

Method 2	Plane Grinding	Fine Grinding	Diamond Polishing	Diamond Polishing	Oxide Polishing
Surface	MD-Fuga	MD-Largo	MD-Dac	MD-Nap-T	MD-Chem
Abrasive	SiC # 320	DiaPro Allegro/Largo	DiaPro Dac	DiaPro Nap-R	OP-U NonDry
Lubricant	Water	-	-	-	-

Polishing cloths for oxide polishing

Depending on the materials to be polished, different polishing cloths are used. MD- or DP-Nap-T is mostly used for softer materials with normal oxide polishing suspension whereas MD- or OP-Chem is better suited for harder materials, and for polishing with active oxide polishing suspension.

Overview	OP-S NonDry / OP-S	OP-U NonDry / OP-U
Purpose	For very ductile materials like refractory metals and other non-ferrous metals. Ceramics.	For heterogeneous materials like composites Carbon- and low alloy steels.
Abrasive	Colloidal silica	Colloidal silica
Grain size	0.04 µm	0.04 µm
Concentration	Ready to use	Ready to use
pH	Alkaline (pH: 9.8)	Alkaline (pH: 9.8)
Addition of additives	Yes e.g. acid (acetic acid), alkaline (potassium hydroxide), oxidation (hydrogen peroxide) and lubricating (glycerine). Use an acidic solution to increase chemical activity.	No In general no, but hydrogen peroxide and ammonia can be added in limited quantities.

SPECIFICATIONS**Cat.no****OP-S NonDry**

Non-drying colloidal silica suspension for final polishing. Ready to use.
Suitable for mixing with chemical reagents for polishing of resistant materials.

1 l.	40700064
5 l.	40700065

OP-S

Colloidal silica suspension for final polishing. Ready to use.
Suitable for mixing with chemical reagents for polishing of resistant materials.

1 l.	40700000
5 l.	40700001

OP-U NonDry

Non-drying colloidal silica suspension for final polishing of all materials. Ready to use.

1 l.	40700066
5 l.	40700067

OP-U

Colloidal silica suspension for final polishing of all materials. Ready to use.

1 l.	40700002
5 l.	40700003

Struers' products are subject to constant product development. Therefore, we reserve the right to introduce changes in our products without notice.

SPECIFICATIONS**Cat.no****Polishing cloth, ø 200 mm. Package of 5 pcs.**

MD-Nap-T, metal backed	40500414
DP-Nap-T, adhesive backed	40500411
MD-Chem, metal backed	40500092
OP-Chem, adhesive backed	40500308

Polishing cloth, ø 250 mm. Package of 5 pcs.

MD-Nap-T, metal backed	40500415
DP-Nap-T, adhesive backed	40500412
MD-Chem, metal backed	40500093
OP-Chem, adhesive backed	40500309

Polishing cloth, ø 300 mm. Package of 5 pcs.

MD-Nap-T, metal backed	40500416
DP-Nap-T, adhesive backed	40500413
MD-Chem, metal backed	40500094
OP-Chem, adhesive backed	40500310

Polishing cloth, ø 350 mm. Package of 5 pcs.

MD-Nap-T, metal backed	40500417
MD-Chem, metal backed	40500154

MD-Rondo. Package of 5 pcs.

Adapter disc for application of self-adhesive consumables to MD-Disc.

ø 200 mm	40503000
ø 250 mm	40503001
ø 300 mm	40503002
ø 350 mm	40503082



Struers' range of high performance polishing cloths offers the market's best cloths in terms of preparation quality and durability.

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Ensuring Certainty

With offices and affiliates in 24 countries and a presence in more than 50 countries worldwide, Struers is the world's leading materialographic solution supplier. We are dedicated to enabling our customers to ensure certainty in all aspects of materialographic preparation and testing as well as material hardness testing - wherever they are in the world. Struers offers a complete range of equipment, consumables, service and training programmes - all supported by the most comprehensive knowledge base, global applications support and a certified global service set-up.

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