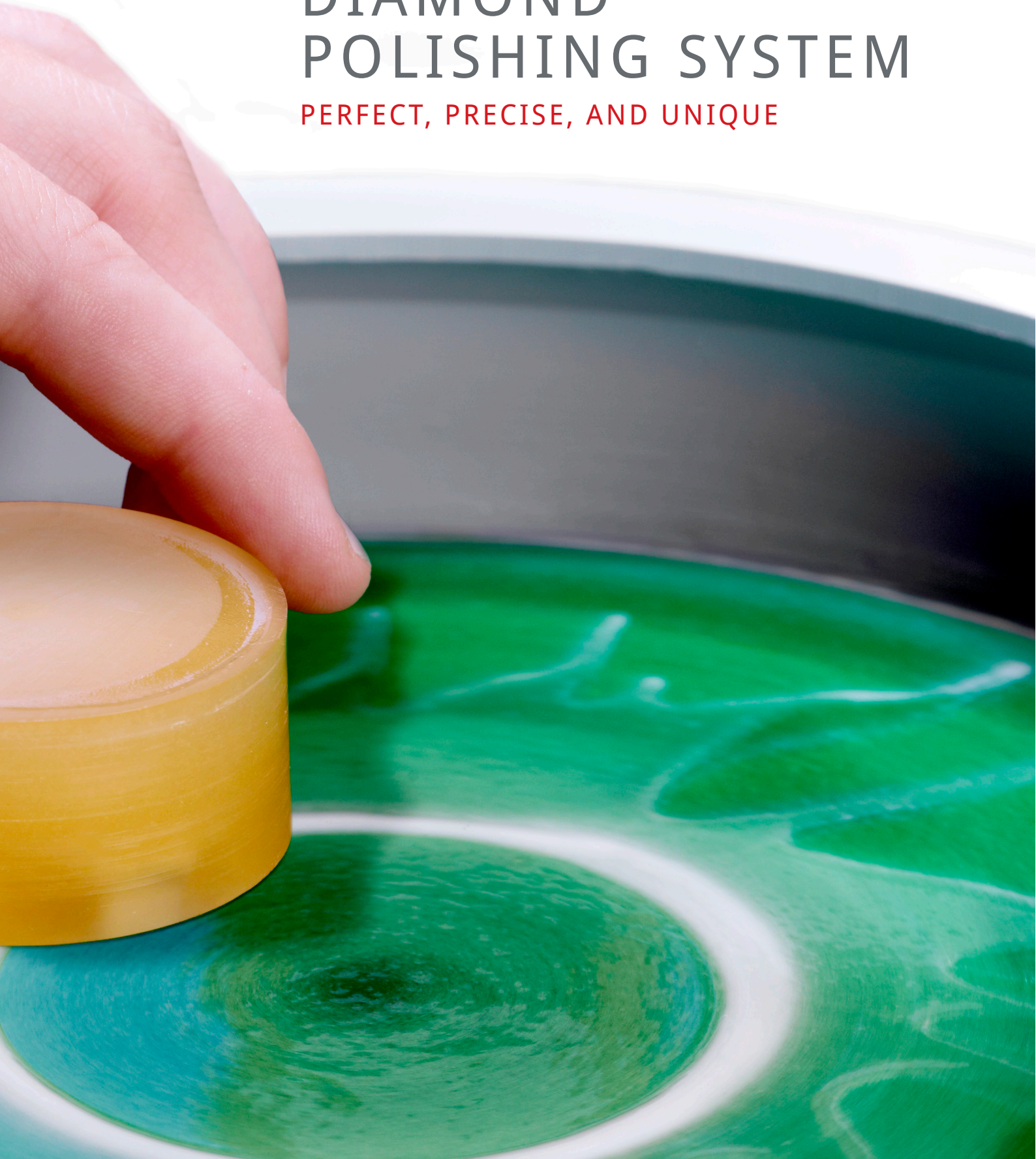




DIAMOND POLISHING SYSTEM

PERFECT, PRECISE, AND UNIQUE



POLISHING CLOTH

The polishing cloth has an important role to play: It is supposed to provide support to the lubricating fluid and simultaneously represents a **level base** which allows for a **relief-free sample surface**.

In general, a distinction is made between pre-polishing and final polishing. During pre-polishing, the material removal is of primary importance. During the final polishing, it is important to possibly completely polish up the microstructure.

SCAN-DIA offers appropriate polishing cloths which are perfectly suitable for a materialographic preparation. They are specifically developed and selected for these requirements.

PLAN-O-GRIP FOR PRE-POLISHING

For a faster removal of **coarser, deeper deformations**.

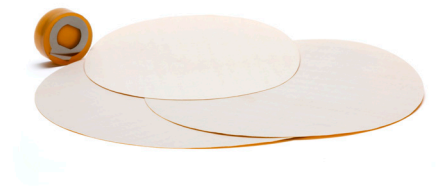
In connection with diamond in grit sizes 50 μ -1 μ , this polishing cloth is particularly appropriate to produce a **level starting surface** for subsequent final polishing.

PLAN-O-GRIP represents an excellent pad for diamond grains.

Thus, this cloth acts as some sort of **"micro polishing disc"**.

It simultaneously allows for **high removal rates** and finest and plane sample surfaces.

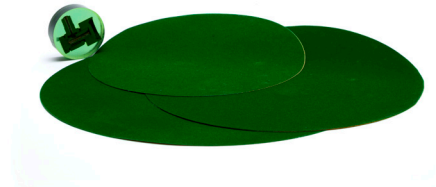
In general, it is recommended for the pre-polishing of hard, medium-hard, and soft materials (carbides, steels, non-ferrous metals, minerals, ceramics, etc.)



INITIA-X UNIVERSAL POLISHING CLOTH FOR PRE-POLISHING OR FINAL POLISHING

The flocked textile cloth may most widely be applied. Therefore, it can be considered a **"universal cloth"**.

Routine pre-polishings and final polishings of medium-hard and hard steels (structural steels, turning steel, tool steels, etc.) may be performed in one step using INITIA-X with grit sizes up to 3 μ .



FINAPLAN FOR FINAL POLISHING

The flocked textile cloth stands out due to its **unmatched polishing properties**.

FINAPLAN is the best cloth for the final polishing of homogeneous but also particularly heterogeneous materials such as cast iron, silumin, non-ferrous metals, ceramics, coated materials, materials in various hardness degrees and abrasion resistances.

All grit sizes from 3 μ to 1/4 μ may be successfully applied.



DIAMOND

For its diamond products, SCAN-DIA uses specifically selected **high-grade** diamonds with a very **regular, blocky** grain shape.

They are characterised by sharp edges, specifically designed for materialography.

In the respective products, the diamonds are processed in **high concentrations** and with **extremely narrow grain size tolerances**.

SCAN-DIA provides its customers with the **classic diamond paste** or the **diamond suspension**.

In the following, we present the two products and their respective applications.

DIAMOND PASTE

The diamond paste is still a **very economical polishing agent**, particularly suitable for the manual and semi-automatic polishing of materialographic sections.

It may be **applied in precise doses** to the polishing cloth and is extremely efficient, provided that recommended polishing parameters are adhered to.

The SCAN-DIA diamond paste of the type M has been specially developed for materialography. It is **soluble in alcohol, oil, and water** and comes in graduated nylon syringes with each 10 g.



DIAMOND SUSPENSION

The diamond suspension is an equally economical and efficient polishing agent.

As opposed to the diamond paste, it is rather suitable for **automatic polishing** of materialographic sections.

The dosed application is preferably performed using an automatic spray unit. Provided that recommended polishing parameters are adhered to, it is extremely efficient.

The SCAN-DIA diamond suspension is specially developed for materialography. It allows for a maximum removal rate and optimal surface finish quality.

It is soluble in **alcohol and water** and is available in 250 ml or 1,000 ml bottles.



EXTENDER LUBRICATING FLUID

Adding an appropriate lubricating fluid helps providing for a uniform distribution of the diamond paste and thus a constantly effective polishing layer.

The extender liquid keeps the cloth moist and **regulates removal rate and deformation depth.**

The liquid constantly adds lubricants to the polishing cloth which are initially contained in the paste substance of the diamond paste.

Due to the slow accumulation of material abrasion particles on the polishing cloth, these lubricants become ineffective and must therefore be added over and over again.

Only this will **guarantee the reproducibility of a polishing process.**

EXTENDER I

The **alcohol-based** EXTENDER I provides for a **high removal rate** and relatively **short polishing times.**

Thus, this extender is preferably suitable for general pre-polishing and the final polishing of harder materials which are not prone to deformation.

With carbides, ceramic materials, carbon steels, particular high-alloy steels, and non-ferrous metal alloys, a scratch-free final polishing can be provided using EXTENDER I.



EXTENDER II

Due to its composition, the **oil-based** EXTENDER II intentionally provides for a considerably reduced removal rate.

This extender has exclusively been developed for the **final polishing of sensitive materials** such as aluminium, pure copper, magnesium alloy, etc.

It should solely be used in combination with 1 μ or 1/4 μ diamond paste and the FINAPLAN cloth.



EXTENDER V

The removal rate of **water-based** EXTENDER V is slightly lower than with EXTENDER I. The depth of scratches and deformations is considerably reduced.

Therefore, it is suitable for various medium-hard materials such as low carbon steels, stainless steels, silumin, soft minerals, etc.

EXTENDER V is preferable for the pre-polishing of sensitive materials which are intended for a final polishing using EXTENDER II.

EXTENDER V is particularly recommendable in connection with the FINAPLAN polishing cloth.



SCAN-DIA DIAMOND POLISHING SYSTEM

Diamond polishing is the most applied polishing method. The method is characterised by two major advantages: the **exceptional hardness of the diamond** and the **constant and unsurpassable cutting effect**. As early as in the fifties, SCAN-DIA company founder Juul Nielson was concerned with different diamond polishing methods and conducted systematic basic research.

On this basis, the internationally known SCAN-DIA DIAMANT POLISHING SYSTEM was created.

In its more than 50 years of company history, SCANDIA has always favoured this polishing method.

Permanent controls and further development ensure consistent quality of the perfectly compatible system products.

Handling and functionality of the system are **fast, easy, and efficient**.

This specifically developed and tested matched system offers the following:

- Optimal polishing
- Short polishing times
- Reproducible polishing programs
- High economical efficiency
- Most easy handling in connection with the SCAN-DIA polishing machines

The individual, matched components of the **SCAN-DIA polishing system** make up a closed, harmonic system and provide the basis for best results.



MAGNETIC SYSTEM

MAGNETIC QUICK CHANGE SYSTEM

For grinding and polishing discs

SCAN-DIA offers a magnetic change system which simplifies and makes easy the replacement of grinding discs and polishing cloths.

The system comprises the following components:

MAGNETIC PAD

A magnetic self-adhesive foil which is to be stuck on the respective supporting discs.

Thus, you can quickly turn an ordinary supporting disc into a **magnetic disc**.

Plastic or aluminium based supporting discs may be used.

MAGNETIC ADAPT FIX

Adapter disc, preferably to hold self-adhesive grinding papers or polishing cloths.

The disc comes with a non-stick coating, so that grinding papers or polishing cloths may easily be removed after use.

This disc is suitable for **multiple uses**.

MAGNETIC ADAPT

Adapter disc, preferably to hold self-adhesive polishing cloths, diamond pre-grinding films, or lapping films.

It is a **single-use** supporting disc.

POLISHING CLOTHS

All available SCAN-DIA polishing cloths may be ordered directly with an adapter disc.

Thus, troublesome replacement of grinding papers becomes unnecessary.

QUALITY

SCAN-DIA develops and tests all products at its facilities. Our laboratories perform **regular tests** and **long-term studies**.

Results and findings lead to the ideal choice of raw materials and components for the SCANDIA quality products which are based on **decades of experience**.

Constant further development of the products is the basis for an economical and efficient work of our clients.

The production is subject to permanent and thorough quality controls, too.

All input flowing into our products is based on experiences made in a **quality-oriented corporate culture**.

These processes provide for **top products** which guarantee best materialographic preparation.

SCAN-DIA assists you in preparing samples and in finding solutions for complex tasks. In consultation with the customer, we also perform customer-specific laboratory tests.

If required, we also give you **technical assistance** and help with your **employee training**.

GRINDING AND POLISHING EQUIPMENT



SCANDIMATIC

These polishing machines are based on **decades of experience** in diamond polishing of materialographic samples.

SCAN-DIA provides a **compact series** of grinding and polishing machines.

The SCANDIMATIC series comprises SCANDIMATIC series 33 which is suitable for discs with Ø 200 mm and SCANDIMATIC series 37 which is suitable for discs with Ø 250 or Ø 300 mm.

The device series has a **modular design**. Manual devices are sufficient when it comes to very rare sample preparations. However, a slightly larger amount of samples is prepared in a considerably more economically efficient and reproducible manner using automatic devices.

The **parallel use of multiple devices is recommended** with a very large sample amount.

In this case, every polishing step is performed on a separate device.

This allows for time savings when it comes to cleaning and disc replacement.

SCANDIMATIC polishing machines have been specially designed for the materialographic application and are extremely solid. They are mainly made of non-corrosive materials.

The housing comes with a high quality lacquer coating. The machine is driven by a very **powerful, low-noise, adjustable precision motor**.

SCANDIMATIC polishing machines come with a water inlet and outlet. Moreover, they may partially be used for grinding.

For more information on SCANDIMATIC grinding and polishing machines, see our separate special brochure.

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