



INSTRUCTIONS FOR USE - ENGLISH



CAMEO®DISK DMD

PRE-POLISHING DISCS

Diamond discs (fixed abrasive) for rapid pre-polishing of metallographic samples made of ductile materials

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1. Description

The CAMEO®DISK DMD is a pre-polishing disc with high material removal capacity, which effectively replaces all pre-polishing steps usually performed with abrasive papers on ductile materials.

Objectives:

Remove a large amount of material rapidly.

Flatten samples.

Reduce surface deformations to quickly move on to the polishing stages.

The specific honeycomb structure of the CAMEO®DISK DMD optimizes the performance of its diamond abrasive by improving lubrication and maintaining optimal flatness.

CAMEO®DISK DMD is particularly recommended for pre-polishing ductile materials.

CAMEO®DISK DMD is available in two mounting modes:

- **Adhesive**, designed for use with the LAM PLAN FAS® system, which facilitates positioning and removal.
- **Magnetic**, used with LAM PLAN magnetic base plates. CAMEO®DISK DMD is available in several sizes.

CAMEO®DISK	References ADHESIVE version		
	Ø 200 mm	Ø 250 mm	Ø 300 mm
DMD	09CA19020	09CA19040	09CA19050

CAMEO®DISK	Références MAGNETIC version		
	Ø 200 mm	Ø 250 mm	Ø 300 mm
DMD	09CA59020	09CA59040	09CA59050

2. Implementation

Precautions for use of CAMEO®DISK DMD self-adhesive:

The low thickness of the CAMEO®DISK DMD makes it flexible, but fragile. It should be handled with care.

Precautions for use of CAMEO®DISK magnetic DMD:

Do not place your hands on the outer diameter of the disc when it is rotating.

Avoid bending the steel sheet of the CAMEO®DISK DMD magnetic disc.

Do not stick any labels on its metal backing.

CAMEO®DISK DMD self-adhesive mounting:

Remove the adhesive backing from the CAMEO®DISK DMD.

Center and apply the CAMEO®DISK DMD to the previously cleaned and dried LAM PLAN FAS® disc. To remove the CAMEO®DISK DMD, lift one edge and gently peel it off.

CAMEO®DISK DMD magnetic retention:

Center and place the CAMEO®DISK DMD on the LAM PLAN

FMS® magnetic plate.

Ensure that the contact surfaces of the CAMEO®DISK DMD and the magnetic plate are clean and dry. Lift the CAMEO®DISK to remove it. Take care not to bend the steel sheet, as this may render the CAMEO®DISK unusable.

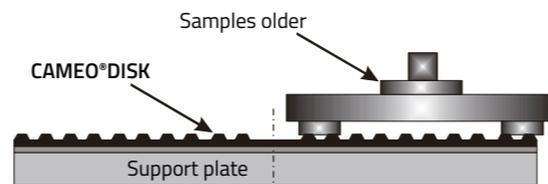
3. How to use

CAMEO®DISK DMD is recommended for pre-polishing ductile materials prior to polishing.

Pre-established polishing ranges can be provided upon request to our technical department.

Positioning of a sample holder:

To ensure excellent flatness of the samples and even wear of the CAMEO®DISK DMD, position the sample holder so that the samples protrude a few millimeters beyond the outer and inner diameters of the active part of the CAMEO®DISK DMD.



Lubricant:

Water is the recommended lubricant used for this pre-polishing step, but it can be replaced by a non-corrosive fluid when pre-polishing water-sensitive materials.

Pressure:

The average pressure to be applied to a sample is $P = 150 \text{ g/cm}^2$ for ductile materials. This pressure is converted into force (F) to be applied to the sample. This pressure must be reduced to $\leq 150 \text{ g/cm}^2$ for softer or more brittle materials.

Ø sample	Ø 20 mm	Ø 30 mm	Ø 40 mm	Ø 50 mm
$M = P \times (\text{Surface sample})$	8 N	18 N	30 N	50 N

Speed:

The recommended rotation speed for the CAMEO®DISK DMD is 300 rpm.

4. Maintenance

Grinding:

It is essential to dress the CAMEO®DISK DMD with the supplied dressing stone before its first use. In addition, to maintain material removal, dress the CAMEO®DISK DMD regularly. The interval between each dressing depends on the material, the number, and the size of the samples processed.

The generally recommended dressing frequency is 20 minutes.

Materials	Samples	Samples Qty	Dressing interval
>100HV to <300 HV	Embedded Ø 30 mm	6	20 minutes

If the hardness of the materials or the size of the samples is greater, the interval between each dressing must be reduced. Conversely, if the hardness of the materials or the size of the samples is less, the interval will be increased.

To set up the CAMEO®DISK DMD manually:

- Place the disc on its magnetic holder or LAM PLAN FAS® system,
- Open the water lubrication fully,
- Rotate the disc at 150 rpm,
- Place the abrasive stone in contact with the center of the disc and move it slowly outward, applying strong pressure.

To dress the CAMEO®DISK DMD on an automatic machine:

- Use the dressing tool for automatic machines ref. 06MLCA160, see instructions for use in section 5.

Cleaning:

To preserve the qualities of the CAMEO®DISK DMD, it is recommended to clean the active surface after each use under water with a brush and dry with compressed air. If the CAMEO®DISK DMD is systematically removed from its support between each use, the LAM PLAN FMS® magnetic plate or the LAM PLAN FAS® disc on which the CAMEO®DISK DMD was positioned must also be carefully cleaned with a soft cloth. CAUTION: Avoid wetting the back of the self-adhesive CAMEO®DISK DMD, as this will cause it to lose its adhesive properties.

Storage:

Store the CAMEO®DISK DMD in the BOXLAM®M storage unit between uses. This will protect it from external contamination.

Replacement:

Replace the CAMEO®DISK DMD when the honeycomb cells are consumed (happens faster in the center).

A self-adhesive CAMEO®DISK DMD may fracture if handled incorrectly. A special coating on the back of the CAMEO®DISK DMD prevents it from coming apart and maintains its effectiveness. However, if the CAMEO®DISK DMD is too fractured, it becomes difficult to use and must be replaced.

Similarly, for a magnetic CAMEO®DISK DMD, damage (bending or impact) to its metal back requires replacement.

5. Dressing tool MASTERLAM®

Dressing the CAMEO®DISK is essential to maintain optimal abrasive action. With automatic polishing machines, you can use our dressing tool instead of the manual dressing solution described above. The advantage is that it limits the variations caused by the manual method, thereby improving repeatability. The dressing tool is specially designed to solve this problem.

Fonction:

Tool for dressing diamond-coated media such as CAMEO®DISK PLATINIUM and CAMEO®DISK DMD. Its role is to maintain optimal abrasive action. It can be used on metallographic polishing machines equipped with central pressure mode.

Mode d'emploi:



Dressing tool top view



Dressing tool view from below with stones attached

1. Place the dressing stones in the tool holders and screw them onto the side. The dressing tool must be used with 3 dressing stones in place.
2. Tighten the tool onto the machine head. The recommended settings for dressing a 300 mm diameter CAMEO®DISK are as follows:

Head's speed	125 rpm / Clockwise
Plate rotation speed	200 rpm / Clockwise
Strength	30 N
Duration	0,2 min.

Start a cycle with the specified settings.

3. Once the dressing cycle is complete, safely remove the tool and proceed to the pre-polishing stage. The dressing tool can be stored with the dressing stones.

When the dressing stones need to be replaced, unscrew them from the dressing tool and insert new dressing stones as described in step 1 of the procedure.

Dressing stones:

The dressing stones must be selected according to the CAMEO®DISK to be dressed.

CAMEO®DISK	Stone grains	dim.	Ref. /2 pieces
Platinum 0, 1 and DMD	120	6 x 13 x 100	98 59121 00
Platinum 2	400	6 x 13 x 100	98 59401 00
Platinum 3 & 4	600	6 x 13 x 100	98 59601 00

