
MD-MOLTO

User Guide



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1 Description

The MD-Molto is a diamond surface with a hardness of HV 50 - 2000 for plane grinding of aluminum alloys, and hard materials containing aluminum.

The surface finish after grinding with MD-Molto is comparable to the result obtained with SiC paper/foil of grit size 220.

The MD-Molto is to be used in combination with an MD-Disc of the same diameter.

2 Safety precautions



Read carefully before use

1. Use only an MD-Disc when using MD surfaces for preparation.
2. When the disc is rotating, make sure your hands are kept completely clear of its periphery and out of the splash bowl.
3. Do not remove the MD surface until the MD-Disc has come to a complete standstill.
4. Do not exceed a rotational speed of 600 rpm.
5. Do not use the MD-Molto if it is damaged.
6. Never try to repair the MD-Molto.
7. Do not apply a total force higher than 250 N on 200 mm diameter MD surfaces, 400 N on 250 mm diameter MD surfaces and 700 N on 300 mm and 350 mm diameter MD surfaces during preparation.
8. Always read the safety precaution sheet and the instruction manual for the machine you are going to use with the MD-Molto.

3 Instructions for use

Place the MD surface on the MD-Disc

1. Make sure that both the surface of the MD-Disc and the back of the MD surface are clean and dry.
2. Align the edge of the MD surface with the MD-Disc.
3. Place the MD surface on the MD-Disc with the steel backing facing the MD-Disc and make sure that it is securely fixed.

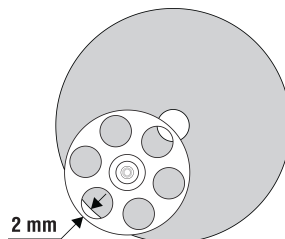


Note

If you are using the MD surface with fully automated equipment, see the instruction manual for the equipment for instructions.

3.1 Place the specimen holder or mover plate

We recommend that you place the specimens so that they protrude at least 2 mm over the edge of the MD surface.



3.2 Coolant



Note

Never run the MD surface without coolant.



Note

We recommend that you use water as coolant. For water-sensitive materials, use a water-free coolant.



Hint

The recommended water flow is 200 - 600 mL/min. If the specimens are warm after grinding, increase the water flow.

3.3 Applied force

The recommended force is 20 - 25 N for specimens with a 30 mm diameter.



Hint

If needed, reduce the force for smaller specimens, and increase the force for larger specimens.



Note

Higher force increases the removal rate, but can also increase deformation of the specimens and reduces the lifetime of the MD surface.

3.4 Rotational speed

The recommended speed is 300 rpm.

If the grinding machine allows it, you can safely use the MD surface with a rotational speed of up to 600 rpm.

**Note**

A higher rotational speed will increase the removal rate, but it will require a higher coolant flow.

3.5 First use

The MD-Molto is ready to use out of box, and will reach maximum removal rate after a few preparations.

3.6 Lifetime

Replace the MD surface when the abrasive surface is worn and the red color starts to show.

3.7 Dressing

You can use an aluminum oxide dressing stick if you need to dress the MD surface. The dressing stick removes grinding debris.

**Note**

Never use diamond dresser tools on the MD surface.

Procedure

**CAUTION**

Keep fingers away from the surface and the edge of the rotating MD surface.

**Note**

Dressing must be done without specimens to avoid scratches from the dressing abrasive.

**Note**

Use plenty of water to lubricate and to flush debris off the surface.

1. Place the MD surface on the MD-Disc and rotate at 150 - 300 rpm.
2. Hold the dressing stick vertically or horizontally and apply it to the center of the rotating MD surface.
3. Move the stick towards the edge, applying only moderate force.
A flow of fine abrasives indicates that you are using the correct force.

3.8 Remove the MD surface

**CAUTION**

Do not remove the MD surface until the MD-Disc has come to a complete standstill.

- Lift the MD surface by the edges and remove it from the MD-Disc.

**Note**

Be careful not to permanently bend the steel backing.
If the steel backing has been permanently bent, discard the MD surface.

4 Cleaning

4.1 Clean the MD surface

**Note**

If you are using the MD surface with fully automated equipment, see the instruction manual for the equipment for instructions.

Preparation surface

1. Keep the MD surface spinning on the MD-Disc while cleaning.
2. Add water to the MD surface.
3. Drag a stiff brush from the center to the edge of the MD surface.
4. Spin the MD surface to full speed to remove the water.

Contact surface

1. Clean the back of the MD surface with water and a soft brush.
2. Use compressed air to dry the surface.

4.2 Clean the MD-Disc

Clean the MD-Disc thoroughly every time you replace an MD surface or when debris starts to set on the contact face.

**Hint**

Magnetically held particles will appear as stripes on the contact face of the MD-Disc.

1. Use a cleaning agent that has a slight grinding effect.
2. Scrub the contact face with a brush or a hard sponge.

3. Wipe the contact face with a soft sponge and rinse with clean water.
4. Wipe the surface thoroughly with a soft cloth.

**Note**

It is essential that you keep the contact face clean.

Due to its magnetic properties, the MD-Disc can collect metallic particles from the preparation process. These particles will become compacted as they corrode.

5 Mark the MD surface

Use a waterproof pen to write the application data on the free space on the smooth part of the metal backing on the MD surface. Do not cover the code.

**Note**

Never place an adhesive label on the back side of the MD surface as this can change the thickness of the surface.

6 Storage

**Note**

Never store a wet MD surface in a plastic bag.

1. Make sure that the surface is dry.
2. Store the MD surface in a well-ventilated place.
3. Protect the MD surface against contamination.
4. When the MD surface is not in use, place it in an MD-Concert/MD-Concertino cabinet or similar.

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fr	Pour les traductions, voir
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