

Introduction

Buehler's DGD Mosaic is available in different grits and is designed for grinding metallic and ceramic materials with hardness above 10 Rockwell (120HV). For a given grit, the surface finish is comparable with the equivalent SiC or Alumina paper with the advantage of having excellent flatness and considerably longer lifetime use.

Selecting the Correct Product

If higher material removal rates are desired, coarser grits should be selected. However, coarser grits generally result in deeper and coarser scratch patterns as compared to the finer grits.

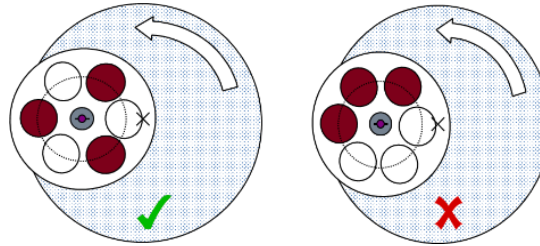
Grit (ANSI/FEPA)	Micron	Recommended Use
120 / P120	120	Planar grinding for larger samples and samples clamped in holders
220 / P220	60	Grinding of harder materials and samples harder than 45HRC/450HV
320 / P360	35	For smaller samples or large samples of softer materials (<45HRC/450HV)
400 / P600	25	
1000 / P1500	12	For fine grinding of materials and manual preparation

Note: DGD Mosaic is not recommended for ductile/soft metallic materials due to clogging and damage of grinding patterns

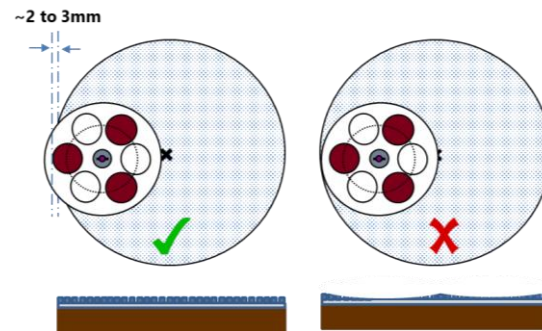
Instructions for use of DGD's

1. Place the DGD Mosaic directly onto the magnetic platen of a grinder-polisher.
2. To get an even distribution of force, distribute samples evenly around the

holder as seen below. If grinding 1 sample, any position in the holder is acceptable. It is not recommended to grind 4 or 5 samples in a 6-sample holder.



3. Align the samples slightly over the edge (~2-3mm) of the platen to ensure uniform wear as seen below. Non-uniform wear results in uneven grinding which will happen if the sample rotates too close to the center of the DGD.



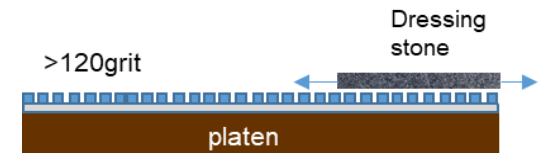
4. Use water to cool and lubricate the disc while grinding.
5. Use an applied force of 25-30N (~5-7lbs) per sample. Use higher force for larger samples and lower force for smaller samples.
6. The recommended optimal platen is 250-300 rpm. To increase material removal, DGD Mosaic discs can be run at higher speed but this will create larger scratching on the surface. Do not exceed 600 rpm.

7. Clean and/or dress the DGD when material removal starts begins to decrease. A quick cleaning or dressing will refresh the surface and provide excellent removal rates.

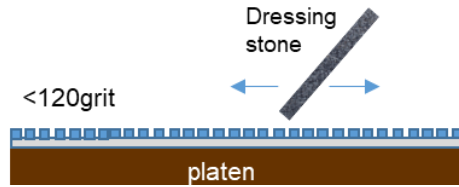
Dressing/Cleaning of DGD's

Dressing (New and Used Surfaces)

- **YOU MUST DRESS THE DISC BEFORE INITIAL USE TO ENSURE OPTIMAL PERFORMANCE**
- Dressing sessions are used to open the disc and expose the diamond grains on a used DGD.
- Use Buehler dressing stick 11-1190 for dressing.
- Place the DGD on a platen and run the disc at 120-150 rpm with plenty of water for lubrication and to flush debris away.
- For grits greater than 120/P120, hold the dressing stick horizontally moving it back and forth from the center to the edge like below.



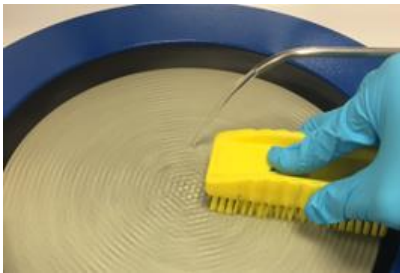
- For grits less than or equal to 120/P120, the dressing stick can be held in a vertical manner during dressing sessions.



- Apply moderate to high pressure for 15-20 seconds to complete the dressing process.

Cleaning (Used Surfaces)

- Regular cleaning is recommended when the DGD appears to have grinding debris on surface. Material removal rate should improve after cleaning.
- Clean the surface with water and a nylon brush.



- If material removal rates remain low after cleaning, dress the surface using a dressing stone. This will expose the cutting surface again and increase material removal rate.

Storage

- After cleaning, the DGD should be dried using a soft cloth or paper towel and stored either lying horizontally or upright at approximate 45 degrees from vertical.
- Store at room temperature in a dry aerated condition and keep away from direct sunlight.

Lifetime

- The DGD Mosaic should be replaced when the hexagonal patterns are worn away exposing the surface underneath.

Waste Disposal

- Buehler's DGD Mosaic does not contain components that are classified as hazardous.
- The worn-out surfaces can be disposed of as domestic waste or landfill in accordance to locally approved regulation.
- The DGD Mosaic cannot be recycled. If desired, the metallic backing can be removed and recycled in accordance to local regulations.

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BUEHLER

DGD Mosaic

Instruction Sheet

ATTENTION:

Must Dress New Discs **Before** Initial Use

ATTENTION: Un disque neuf doit impérativement être dressé avant sa première utilisation

BEUCHTUNG: Scheiben müssen vor Erstgebrauch abgerichtet werden

ATENCIÓN: Debe prepararse los discos nuevos **antes de** usarlos por primera vez

注意: 初回使用前にディスクをドレッシングする必要があります

注意: 首次使用前，必须对砂轮进行研磨