

# INSTRUCTIONS

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BUEHLER®

## *ULTRA-PREP™ DIAMOND GRINDING DISCS*

### INTRODUCTION

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ULTRA-PREP™ DIAMOND GRINDING DISCS are the ideal grinding media for many automatic sample preparation applications. They are particularly useful for the planar grinding of ceramic, hard metal and metal matrix composite materials and for the surface preparation of spectrographic analysis. ULTRA-PREP™ Grinding Discs combine the benefits of high removal rates with minimal deformation, long service life, reduced grinding times and cost efficiency.

#### Disc Application, Use and Care:

1. ULTRA-PREP™ Grinding Discs, when used properly, will provide extremely long life. It is therefore recommended that each disc be utilized with a dedicated platen and dressed prior to use.
2. When placing an ULTRA-PREP™ Diamond Grinding Disc on a platen, first make sure that all residual adhesive material and other contaminants have been removed from the platen surface. Apply the disc to the platen by starting at one edge, gradually removing the release liner, and pressing the disc against the platen until it adheres to the entire surface. Try to minimize the entrapment of air between the disc and the platen.
3. Recommended speeds and pressures for use with ULTRA-PREP™ Diamond Grinding Discs are:
  - 120 rpm
  - 5 lbs./sample for 1 1/4" diameter samples
  - 10 lbs./sample for 50mm diameter samples

Because of the resilient backing of these discs, increasing pressures beyond those recommended will have little effect on material removal rates.

4. ULTRA-PREP™ Discs should be utilized with copious amounts of water. This practice will ensure cool cutting while effectively flushing grinding swarf from the disc surface.

5. In order to keep your ULTRA-PREP™ Discs cutting efficiently, the discs will require periodic dressing. It is recommended that they be

dressed with the No. 15-6190 Dressing Stick from BUEHLER®, designed especially for dressing ULTRA-PREP™ Grinding Discs. The frequency of dressing will vary depending upon the type of material for which the discs are being used with the amount of lubricant/coolant being applied. As a rule of thumb, the discs should be dressed after every three minutes of continuous use for soft materials, or 10 minutes for extremely hard materials with continuous use. Dressing is accomplished by pressing a corner of the dressing stick against the rotating disc surface using moderate manual pressure, starting at the center of the disc periphery over a period of 5-10 seconds. Dressing may be accomplished while an automatic grinding process is in progress.

6. You can use the same ULTRA-PREP™ Diamond Grinding Disc to prepare different sample materials. However, to avoid cross contamination, the platen must be cleaned and dressed. First follow the dressing instructions in step 5 above, then wash the disc with a nylon brush. Wear eye protection when cleaning the disc.



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