

How to do mineralogical and thin section preparation

Preparation method – SOFT (1-3)

Pre-grinding + TS polishing

Pre-grinding – the first table = the step before gluing the mineral to the glass slide

Type	Surface	Rpm (speed)	Direction	Suspension	Lubricant	Force (N)	Time (min)
PG	*CID + SiC #220	40 / 70	><	-	Water	5	AN
FG	*CID + SiC #1000	40 / 70	><	-	Water+glycol	5-10	5

(*CID = Cast Iron Disc) AN = as needed Water+glycol = 2:1

Type	Surface	Rpm (speed)	Direction	Suspension	Lubricant	Force (N)	Time (min)
DP	MD-Pan	40 / 70	><	DP-P 9 µm	Red lub	5-10	10
DP	MD-Dur	40 / 70	><	DiaPro Dur3 µm	-	10	3-5
DP	MD-Dur	40 / 70	><	DiaPro Dur1 µm	-	10	3
DP/OP	MD-Dur or Chem	40 / 70	><	DP-P ¼ µm or OP-S	Red lub	5	1-3

Preparation method – MEDIUM (4-6)

Pre-grinding + TS polishing

Type	Surface	Rpm (speed)	Direction	Suspension	Lubricant	Force (N)	Time (min)
PG	MD-Piano #220 / Diamond Pad #40	70/100	><	-	Water	15-20	AN
FG	MD-Piano #1200 / Diamond Pad #20	70/100	>>	-	Water	10-15	2

Type	Surface	Rpm (speed)	Direction	Suspension	Lubricant	Force (N)	Time (min)
DP	MD-Pan	70/100	><	DP-P 9 µm	Blue lub	15-20	10
DP	MD-Pan/Dac	70/100	><	DiaPro Dac3 µm	-	15	10
DP	MD-Dur	70/100	><	DiaPro Dur1 µm	-	15	5
DP/OP	MD-Dur or Chem	70/100	><	DP-P ¼ µm or OP-S	Red lub	10	2-3

Preparation method – HARD (7-10)

Pre-grinding + TS polishing

Type	Surface	Rpm (speed)	Direction	Suspension	Lubricant	Force (N)	Time (min)
PG	MD-Piano #220 Diamond Pad #40	150/300	><	-	Water	30	AN
FG	MD-Piano #1200 Diamond Pad #20	150/150	>>	-	Water	25-30	2

Type	Surface	Rpm (speed)	Direction	Suspension	Lubricant	Force (N)	Time (min)
DP	MD-Plan	150/150	><	DP-P 15 µm DiaPro Plan 9 µm	Blue lub -	25-30	10-15
DP	MD-Pan	150/150	><	DP-P 9 µm DP-P 6 µm	Blue lub	20	10
DP	MD-Pan/Dac	70/100	><	DP-P 3 µm DiaPro Dac 3 µm	Blue lub -	15-20	5-7
DP/OP	MD-Dur/Chem	70/100	><	DiaPro Dur1 µm / OP-S	-	10	3-5

Preparation method – water sensitive material (reactive / sensitive material)

Type	Surface	Rpm (speed)	Direction	Suspension	Lubricant	Force (N)	Time (min)
PG	CID + SiC #220	40 / 50	><	-	Glycol	10	AN
PG	CID + SiC #1000	40 / 50	><	-	Glycol	10	5-10

CID = Cast Iron Disc Glycol can be replaced by Butandiol or IPA

Type	Surface	Rpm (speed)	Direction	Suspension	Lubricant	Force (N)	Time (min)
DP	MD-Pan	40 / 50	><	DP-A 15 µm	Brown or yellow	15	10
DP	MD-Pan /Dur	40 / 50	><	DP-A 9 µm	Brown or yellow	15	5-10
DP	MD-Dur	40 / 50	><	DP-A 3 µm	Brown or yellow	10	5
DP	MD-Dur	40 / 50	><	DP-A 1 µm	Brown or yellow	5-10	3