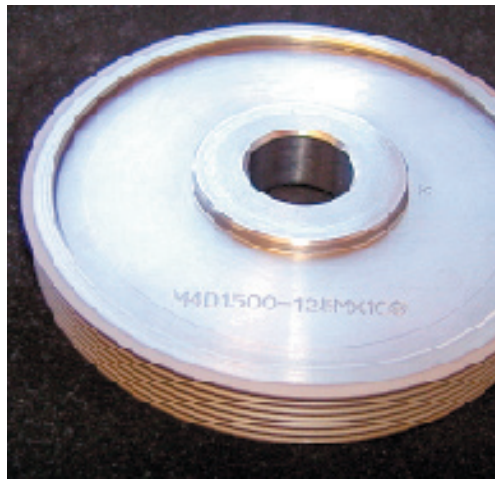




## KURE-NORTON SEMICONDUCTOR EDGE GRINDING WHEELS

### THE KURE-NORTON/LAPMASTER TEAM PROVIDES:

- Consistent, World-Class Quality
- Design Flexibility & Innovation
- Competitive Pricing
- Fast and Reliable Delivery
- Local Service and Support



### KURE-NORTON EDGE GRINDING WHEEL

#### KURE-NORTON FEATURES

- World-Class Semi Supplier.
- ISO 9001 Certified.
- ISO 14001 Certified (later this year).
- Controls all aspects of Edge-Grinding Wheel manufacturing in-house.
- Reduced turn-around time.
- Measures and re-grades Diamond & CBN powders in-house to maintain tight Abrasive Distribution & Quality.
- Flexible: 11 Bond Types offered.
- Bond Types Address Optimization of:
  - Enhance Wheel Service Life
  - Optimize Edge Surface Finish
  - Reduce/Eliminate Edge Chipping
  - Accurate Edge Contour/Profile.



### KURE-NORTON EDGE GRINDING WHEEL

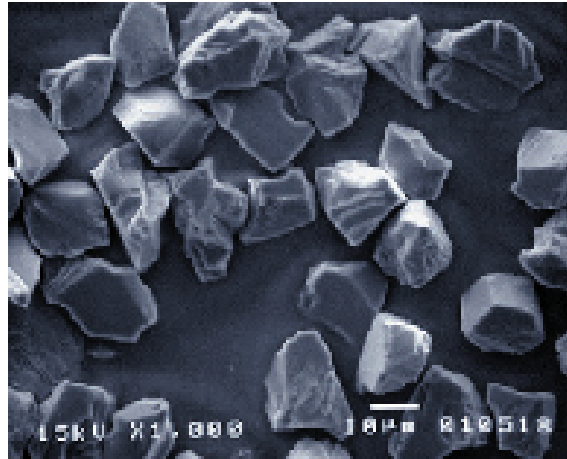
#### ABOUT LAPMASTER

- ISO 9001 Certified (pending).
- Stability: Lapmaster has supplied Equipment, Accessories & Consumables to the Advanced Materials Industry for decades.
- Conveniently located in the Midwest.
- 15 minutes from O'Hare Airport.
- Established in 1948.
- We are a Global Organization with manufacturing and sales facilities in Europe, Asia and North America.
- Lapmaster has the capabilities to inventory product, as well as to service & support your company regarding new & re-worked wheels.



# KURE-NORTON SEMICONDUCTOR EDGE GRINDING WHEELS

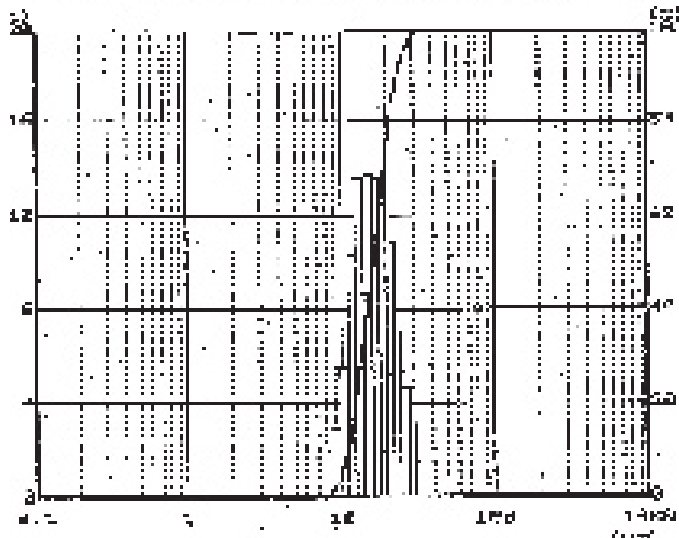
- KURE-NORTON 2ND GRADING STEP ASSURES TIGHT PRIMARY EDGING DIAMOND DISTRIBUTION:



Run #: 100  
 Diamond Mesh: #800  
 Lot #: 635110  
 Date Tested: 09/24/99  
 Time Tested: 16:47  
 Channels Used: 30  
 Particle Sizes Tested: 0.9 – 700 microns  
 # Particles Evaluated: 935

SEM of 800 Mesh Diamond

mm	枚数	容積	幅厚	ch	枚数	容積	幅厚	mm	容積	幅厚	割合
1	0.72	0.00	0.00	21	7.80	0.00	0.00	41	08.80	00.00	0.00
2	0.85	0.00	0.00	22	8.20	0.00	0.00	42	09.00	00.00	0.00
3	0.90	0.00	0.00	23	8.00	0.00	0.00	43	08.00	00.00	0.00
4	1.05	0.00	0.00	24	1.00	10.00	0.00	44	07.00	00.00	0.00
5	1.21	0.00	0.00	25	12.00	20.00	10.00	45	12.00	00.00	0.00
6	1.40	0.00	0.00	26	13.10	24.00	10.00	46	14.00	00.00	0.00
7	1.55	0.00	0.00	27	15.00	27.00	15.00	47	15.00	00.00	0.00
8	1.72	0.00	0.00	28	17.00	31.00	18.00	48	17.00	00.00	0.00
9	1.90	0.00	0.00	29	19.00	34.00	20.00	49	19.00	00.00	0.00
10	2.10	0.00	0.00	30	21.00	38.00	22.00	50	21.00	00.00	0.00
11	2.30	0.00	0.00	31	23.00	42.00	24.00	51	23.00	00.00	0.00
12	2.50	0.00	0.00	32	25.00	46.00	26.00	52	25.00	00.00	0.00
13	2.70	0.00	0.00	33	27.00	50.00	28.00	53	27.00	00.00	0.00
14	2.90	0.00	0.00	34	29.00	54.00	30.00	54	29.00	00.00	0.00
15	3.10	0.00	0.00	35	31.00	58.00	32.00	55	31.00	00.00	0.00
16	3.30	0.00	0.00	36	33.00	62.00	34.00	56	33.00	00.00	0.00
17	3.50	0.00	0.00	37	35.00	66.00	36.00	57	35.00	00.00	0.00
18	3.70	0.00	0.00	38	37.00	70.00	38.00	58	37.00	00.00	0.00
19	3.90	0.00	0.00	39	39.00	74.00	40.00	59	39.00	00.00	0.00
20	4.10	0.00	0.00	40	41.00	78.00	42.00	60	41.00	00.00	0.00



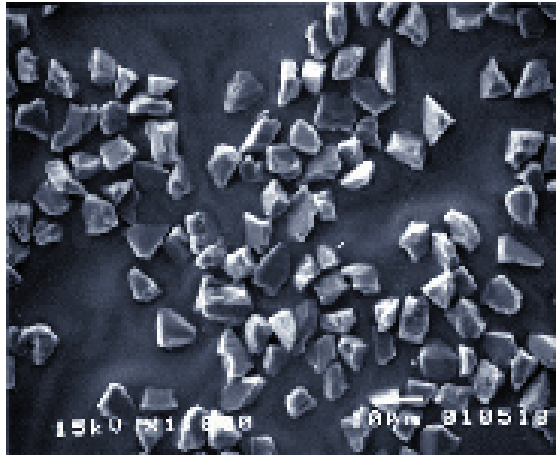
※ 調整値 - 2 ※

- 20% = 0.0840
- 10% = 10.41
- 50% = 15.02
- 90% = 24.25
- 95% = 16.40
- 62% = 0.0024



# KURE-NORTON SEMICONDUCTOR EDGE GRINDING WHEELS

- KURE-NORTON 2ND GRADING STEP ASSURES TIGHT FINAL EDGING DIAMOND DISTRIBUTION:

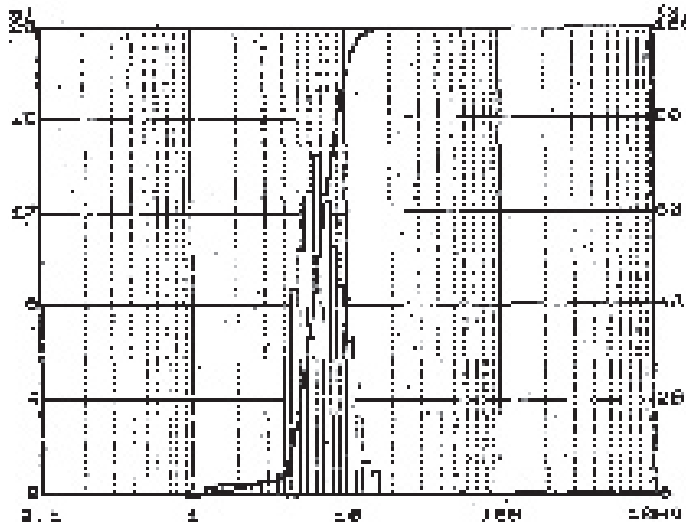


Run #: 101  
Diamond Mesh: #1500  
Lot #: T91322  
Date Tested: 09/08/99  
Time Tested: 19:24

Channels Used: 30  
Particle Sizes Tested: 0.9 – 700 microns  
# Particles Evaluated: 899

SEM of 1500 Mesh Diamond

bin	重量	累積	百分比	bin	重量	累積	百分比	bin	重量	累積	百分比
1	0.01	0.01	0.00	31	7.82	66.77	7.47	41	234.38	100.00	9.57
2	0.02	0.03	0.00	32	8.25	75.02	7.99	42	28.50	100.00	0.23
3	0.03	0.06	0.00	33	8.31	83.33	8.31	43	58.82	100.00	0.53
4	0.11	0.17	0.19	34	10.09	93.42	9.69	44	114.53	100.00	0.99
5	1.0	0.88	0.89	35	11.18	97.84	9.43	45	120.00	100.00	0.99
6	1.46	0.47	0.29	36	14.15	99.38	1.42	46	140.23	100.00	0.99
7	1.33	1.02	0.49	37	16.40	100.00	1.62	47	157.63	100.00	0.99
8	1.23	1.02	0.49	38	17.76	100.00	0.50	48	178.50	100.00	0.99
9	1.93	1.86	0.49	39	19.76	100.00	0.50	49	197.54	100.00	0.99
10	2.70	2.94	0.30	40	22.30	100.00	0.40	50	218.40	100.00	0.99
11	2.40	2.84	1.00	41	23.66	100.00	0.40	51	240.00	100.00	0.99
12	2.82	2.82	2.49	42	27.05	100.00	4.39	52	259.57	100.00	0.99
13	3.27	3.97	0.13	43	21.00	100.00	0.50	53	12.87	100.00	0.99
14	3.43	3.40	0.04	44	23.43	100.00	0.50	54	130.50	100.00	0.99
15	3.80	3.25	0.75	45	28.18	100.00	0.80	55	243.18	100.00	0.99
16	4.87	3.09	3.84	46	4.00	100.00	0.00	56	448.50	100.00	0.00
17	1.50	15.01	5.86	47	40.53	100.00	0.00	57	500.00	100.00	0.00
18	3.66	18.60	0.32	48	58.30	100.00	0.00	58	569.16	100.00	0.00
19	0.18	47.81	12.61	49	62.00	100.00	0.00	59	626.78	100.00	0.00
20	4.12	56.04	19.48	40	69.62	100.00	0.00	60	699.00	100.00	0.00



重量百分比分布圖

- 75% - 0.0104
- 20% - 4.36
- 50% - 6.70
- 90% - 40.54
- 97% - 6.94
- 95% - 7.11



# KURE-NORTON SEMICONDUCTOR EDGE GRINDING WHEELS

KURE-NORTON'S ATTENTION TO DETAIL IN THEIR  
ENGINEERING, MANUFACTURING & FINAL INSPECTION  
ASSURES REPEATABLE QUALITY:

<u>Edging Wheel Inspection Sheet</u>										Date: M.D.YYYY						
Customer	*****									Dimension	202D-201-300-3X					
Product	*****									Mesh size	#800					
Type	14006Y T4									Concentration	***					
Remark	*****									Marking	*****					
Item	H		H		H		K									
STD value	207.00		70.00		30.000		17.00		1.00		3.00					
Tolerance -	20.00		19.95		30.000		16.97		0.99		1.99					
Tolerance +	202.22		20.02		30.000		17.12		1.10		2.10					
Measured																
Item	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12				
STD value	3.55	5.55	6.85	8.85	10.15	12.15	13.45	15.45	3.00	2.00	2.00	2.00				
Tolerance -									1.98	9*	1.98	1.9*				
Tolerance +									2.02	2.02	2.02	2.02				
Measured																
Item	V1		V2		V3		V4		V5		V6		V7		V8	
STD value	11.00°		11.00°		11.00°		11.00°		11.00°		11.00°		11.00°		11.00°	
Tolerance -	10.50°		10.50°		10.50°		10.50°		10.50°		10.50°		10.50°		10.50°	
Tolerance +	11.50°		11.50°		11.50°		11.50°		11.50°		11.50°		11.50°		11.50°	
Measured																
Item	R1	R2	R3	R4	R5	R6	R7	R8								
STD value	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15								
Tolerance -	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15								
Tolerance +	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15								
Measured																
Tolerance	Radius	End side		Peripheral		Groove Bottom Plane		Unbalance								
Max Tol.	0.005	0.005		0.010		0.002		0.20g								
Measured																
													Unit: [mm]			
Detail of the Diamond Section										Appearance:						
KURE-NORTON Co., LTD					Chief			Inspector								