

DATA SHEETS

Vitrified Bonded Abrasives

Bonded Abrasive Grit (#) No.	Rough Grain			Coarse Grain			Basic Grain			Mixed Grain			Fine Grain		
	Sieve Size		Residual	Sieve Size		Residual	Sieve Size		Residual	Sieve Size		Residual	Sieve Size		Residual
	mm	um	Weight%	mm	um	Weight%	mm	um	Weight%	mm	um	Weight%	mm	um	Weight%
F4	8.00	/	0	5.60	/	20	4.75	/	40	4.75 4.00	/	70	3.35	/	3
F5	6.70	/	0	4.75	/	20	4.00	/	40	4.00 3.35	/	70	2.80	/	3
F6	5.60	/	0	4.00	/	20	3.35	/	40	3.35 2.80	/	70	2.36	/	3
F7	4.75	/	0	3.35	/	20	2.80	/	40	2.80 2.36	/	70	2.00	/	3
F8	4.00	/	0	2.80	/	20	2.36	/	40	2.36 2.00	/	70	1.70	/	3
F10	3.35	/	0	2.36	/	20	2.00	/	40	2.00 1.70	/	70	1.40	/	3
F12	2.80	/	0	2.00	/	20	1.70	/	45	1.70 1.40	/	70	1.18	/	3
F14	2.36	/	0	1.70	/	20	1.40	/	45	1.40 1.18	/	70	1.00	/	3
F16	2.00	/	0	1.40	/	20	1.18	/	45	1.18 1.00	/	70	/	850	3
F20	1.70	/	0	1.18	/	20	1.00	/	45	1.00 /	850 /	70	/	710	3
F22	1.40	/	0	1.00	/	20	/	850	45	/	850 710	70	/	600	3
F24	1.18	/	0	/	850	25	/	710	45	/	710 600	70	/	500	3
F30	1.00	/	0	/	710	25	/	600	45	/	600 500	65	/	425	3
F36	/	850	0	/	600	25	/	500	45	/	500 425	65	/	355	3
F40	/	710	0	/	500	30	/	425	40	/	425 355	65	/	300	3
F46	/	600	0	/	425	30	/	355	40	/	355 300	65	/	250	3
F54	/	500	0	/	355	30	/	300	40	/	300 250	65	/	212	3
F60	/	425	0	/	300	30	/	250	40	/	250 212	65	/	180	3
F70	/	355	0	/	250	25	/	212	40	/	212 180	65	/	150	3
F80	/	300	0	/	212	25	/	180	40	/	180 150	65	/	125	3
F90	/	250	0	/	180	20	/	150	40	/	150 125	65	/	106	3
F100	/	212	0	/	150	20	/	125	40	/	125 106	65	/	75	3
F120	/	180	0	/	125	20	/	106	40	/	106 90	65	/	63	3
F150	/	150	0	/	106	15	/	75	40	/	75 63	65	/	45	3
F180	/	125	0	/	90	15	/	75 63	40	/	75 63 53	65	/	/	/
F220	/	106	0	/	75	15	/	63 53	40	/	63 53 45	60	/	/	/

Coated Abrasives

P12-P220 Grit Size Distributions

Coated Abrsiv Grit # No.	First Sieve			Second Sieve			Third Sieve			Fourth Sieve			Fifth Sieve			Under All Layers of Sieves
	Sieve Size W1		Residual on 1st Sieve	Sieve Size W2		Residual btwn 1st & 2nd Sieves	Sieve Size W3		Residual btwn 1st thru 3rd Sieves	Sieve Size W3		Residual btwn 1st thru 4th Sieves	Sieve Size W3		Residual thru 1st & 5th Sieves	
	mm	um		%	mm		um	≤ %		mm	um		%	mm		
P12	3.35	/	0	2.36	/	1	2.00	/	14 ± 4	1.70	/	61 ± 9	1.40	/	92	8
P16	2.36	/	0	1.70	/	3	1.40	/	26 ± 6	1.18	/	75 ± 9	1.00	/	96	4
P20	1.70	/	0	1.18	/	8	1.00	/	42 ± 8	/	850	86 ± 6	/	710	96	4
P24	1.40	/	0	1.00	/	1	/	850	14 ± 4	/	710	61 ± 9	/	600	92	38
P30	1.18	/	0	/	850	1	/	710	14 ± 4	/	600	61 ± 9	/	500	92	8
P36	1.00	/	0	/	710	1	/	600	14 ± 4	/	500	61 ± 9	/	425	92	8
P40	/	710	0	/	500	7	/	425	42 ± 8	/	355	86 ± 6	/	300	96	4
P50	/	600	0	/	425	3	/	355	26 ± 6	/	300	75 ± 9	/	250	96	4
P60	/	500	0	/	355	1	/	300	14 ± 4	/	250	61 ± 9	/	212	92	8
P80	/	355	0	/	250	3	/	212	26 ± 6	/	180	75 ± 9	/	150	96	4
P100	/	300	0	/	212	1	/	180	14 ± 4	/	150	61 ± 9	/	125	92	8
P120	/	212	0	/	150	7	/	125	42 ± 8	/	106	86 ± 6	/	90	96	4
P150	/	180	0	/	125	3	/	106	26 ± 6	/	90	75 ± 9	/	75	96	4
P180	/	150	0	/	106	2	/	90	15 ± 5	/	75	61 ± 12	/	63	90	10
P220	/	125	0	/	90	2	/	75	15 ± 5	/	63	69 ± 12	/	53	90	10

P240-P2500 Powder Size Distributions

Grit	ds ₀ Max Value	ds ₃ MAX Value	ds ₅₀ Max Value	ds ₉₅ Min. Value
P240	110.00	81.7	58.5 ± 2.0	44.5
P280	101.00	71.0	52.2 ± 2.0	39.2
P320	94.00	66.8	46.2 ± 1.5	34.2
P360	87.00	60.3	40.5 ± 1.5	29.6
P400	81.00	53.9	35.0 ± 1.5	25.2
P500	77.00	48.3	30.2 ± 1.5	21.5
P600	72.00	43.0	25.8 ± 1.0	18.0
P800	67.00	38.1	21.8 ± 1.0	15.1
P1000	63.00	33.7	18.3 ± 1.0	12.4
P1200	58.00	29.7	15.3 ± 1.0	10.2
P1500	58.00	25.8	12.6 ± 1.0	8.3
P2000	58.00	22.4	10.3 ± 0.8	6.7
P2500	58.00	19.3	8.4 ± 0.5	5.4

Chemical and Physical Property Data Sheets (White)

Grit Range	Chemical Composition (%)	
	AL ₂ O ₃	Na ₂ O
F4~F80 P12~P80	>=99.10	<=0.35
F90~F150 P100~P150	>=99.10	<=0.40
F180~F220 P180~P220	>=98.60	<=0.50
F230~F800 P240~P800	>=98.30	<=0.60
F1000~F1200 P1000~P1200	>=98.10	<=0.70
P1500~P2500	>=97.50	<=0.90

Physical Properties

Basic Minerals	Crystal Size (μm)	True Density	Bulk Density (g/cm ³)	Knoop Hardness (kg/mm ²)
α ~ AL ₂ O ₃	600 ~ 1400	>=3.90	1.50 ~ 1.95	2200 ~ 2300

Chemical and Physical Property Data Sheets (Pink)

Chemical Composition

Grit Size Range	Low Chromium			Medium Chromium			High Chromium		
	AL ₂ O ₃	Cr ₂ O ₃	Na ₂ O	AL ₂ O ₃	Cr ₂ O ₃	Na ₂ O	AL ₂ O ₃	Cr ₂ O ₃	Na ₂ O
F12 ~ F80	>=98.50	0.20~0.45	<=0.50	>=98.20	0.45~1.00	<=0.55	>=97.40	1.00~2.00	<=0.55
F90 ~ F150	>=98.50		<=0.55	>=98.20		<=0.60	>=97.00		<=0.60
F180~F220	>=98.00		<=0.60	>=97.80		<=0.70	>=96.50		<=0.70

Physical Property

Basic Minerals	Crystal Size (μm)	True Density	Bulk Density (g/cm ³)	Knoop Hardness (kg/mm ²)
α ~ AL ₂ O ₃	600 ~ 1400	>=3.90	1.40 ~ 1.91	2200 ~ 2300

White Fused Alumina for Laminates (Physical Properties)

Product Code	Bulk Density(g/cm ³)	Bulk Density(um)	Cleanness
NWA 180	>=1.85	125~90	>=97%
NWA 220	>=1.76	90~63	>=97%

Grit Distributions Tested by Sedimentation

Grit #	ds ₃ Max Value (μm)	ds ₃ Medium Value (μm)	ds ₃ Min. Value (μm)
F230	77	55.8 ± 3.0	38
F240	68	47.5 ± 2.0	32
F280	60	39.9 ± 1.5	25
F320	52	32.8 ± 1.5	19
F360	46	26.7 ± 1.5	14
F400	39	21.4 ± 1.0	10
F500	34	17.0 ± 1.0	7
F600	30	13.7 ± 1.0	4.6
F800	28	11.0 ± 1.0	3.5
F1000	23	9.1 ± 0.8	2.4
F1200	20	7.6 ± 0.5	2.4 (at 80%)

Grit Distributions Tested by Photoelectric Sedimentation

Grit #	ds ₃ Max Value (μm)	ds ₃ Medium Value (μm)	ds ₃ Min. Value (μm)
F230	82	53.0 ± 3.0	34
F240	70	44.5 ± 2.0	28
F280	59	36.5 ± 1.5	22
F320	49	29.2 ± 1.5	16.5
F360	40	22.8 ± 1.5	12
F400	32	17.3 ± 1.0	8
F500	25	12.8 ± 1.0	5
F600	19	9.3 ± 1.0	3
F800	14	6.5 ± 1.0	2
F1000	10	4.5 ± 0.8	1
F1200	7	3.0 ± 0.5	1 (at 80%)

Grit Size Ranges for Micro & Super Micro Powders

Type	Grit #	Basic Size Range (μm)
Micropowder	W63	63~50
	W50	50~40
	W40	40~28
	W28	28~20
	W20	20~14
	W14	14~10
	W10	10~7.0
	W7	7.0~5.0
	W5	5.0~3.5
Super Micropowder	W3.5	3.5~2.5
	W2.5	2.5~1.5
	W1.5	1.5~1.0
	W1	1.0~0.5