



TECHNICAL DATA SHEET

Revision: March 7, 2023

RockRidge CM42 - Calcined Mullite (42% Alumina)

Product: RockRidge 42% alumina-containing calcined mullite aggregates and powders.

Description: Calcined Mullite is a specially processed material that is ground and sintered at temperatures exceeding 1500° C to create a stable refractory material.

Applications: Calcined Mullite is used in high temperature applications requiring lightweight materials with low thermal expansion coefficients and creep resistance. Commonly used in investment casting and refractory shapes and castables.

Typical Chemical Analysis:

Mineral	%
Silicon Oxide (SiO ₂)	52.0 %
Titanium Oxide (TiO ₂)	1.1 %
Iron Oxide (Fe ₂ O ₃)	0.5 %
Potassium Oxide (K ₂ O)	0.1 %
Aluminum Oxide (Al ₂ O ₃)	42.0 %
Calcium Oxide (CaO)	0.1 %

Typical Grit Size Analysis

% Retained					
ASTM >>	#18/100™	#18/100™ ^E	#30/100™	#30MF™	#35MF™
mm >>	1.00 <>0.150	1.00 <>0.150	0.600<>0.150	< 0.600	< 0.500
Mesh	Special Ranges with Magnetic Treatment				
#18	0.08	0.25	-	-	-
#20	-	-	-	-	-
#25	-	26.1	-	-	-
#30	34.8	-	0.25	0.84	-
#35	-	-	-	-	1.47
#40	29.4	44.4	31.3	34.2	10.6
#50	-	-	-	-	33.5
#60	24.6	-	52.5	-	-
#70	-	25.5	-	-	-
#80	-	2.55	-	-	28.7
#100	10.4	0.91	14.8	62.6	9.13
#140	-	-	-	-	-
#200	-	-	-	-	-
#300	-	-	-	-	-
#325	-	-	-	-	-
Fines	0.76	0.29	1.14	2.38	16.7
Ø mean	0.53	0.56	0.37	0.36	0.28

More Sizing on Pages 2-3



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Standard Split Sizes

Typical Grit Size Analysis

% Retained								
ASTM >>	#4/8	#4/12	#8/20	#14/30	#16/30	#18/40	#18/60	#30/80
mm >>	4.75<>2.36	4.75<>1.70	2.36<>0.85	1.40<>0.60	1.18<>0.60	1.0<>0.425	1.0<>0.25	0.60 <
Mesh	Special Ranges							
#5/16	-	-	-	-	-	-	-	-
#1/4	-	-	-	-	-	-	-	-
#4	0.8	-	-	-	-	-	-	-
#5	24.9	0.74	-	-	-	-	-	-
#6	-	12.7	-	-	-	-	-	-
#8	72.7	-	0.73	-	-	-	-	-
#10	-	-	7.98	-	-	-	-	-
#12	-	85.9	-	-	-	-	-	-
#14	-	-	-	0.29	-	-	-	-
#16	-	-	-	14.7	1.31	-	-	-
#18	-	-	-	-	23.6	2.04	1.42	-
#20	-	-	91.1	-	-	27.8	18.2	-
#25	-	-	-	-	-	30.9	-	-
#30	-	-	-	84.5	73.8	22.3	-	0.65
#35	-	-	-	-	-	14.6	-	20
#40	-	-	-	-	-	1.65	-	27.3
#50	-	-	-	-	-	-	-	41.3
#60	-	-	-	-	-	-	80.3	-
#200	-	-	-	-	-	-	-	0.5
Fines	1.57	0.71	0.18	0.52	1.39	0.62	0.05	0.11
Ø mean	3.45	3.04	1.48	0.95	0.87	0.75	0.62	0.41



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Standard Run of Mill Sizes

Typical Grit Size Analysis

% Retained								
ASTM >>	#20 MF	#30 MF	#35 MF	#50 MF	#140 MF	#140 BR	#200 MF	#325 MF
mm >>	<0.85	<0.60	<0.60	<0.30	<0.106	<0.106	<0.075	<0.045
Mesh	Special Ranges							
#18	-	-	-	-	-	-	-	-
#20	4.05	-	-	-	-	-	-	-
#25	14.5	-	-	-	-	-	-	-
#30	-	1.54	-	0.00	-	-	-	-
#35	-	12.6	0.47	-	0.47	-	-	-
#40	-	-	9.86	-	9.86	-	-	-
#50	-	-	25.8	0.60	25.8	-	-	-
#60	-	-	-	-	-	-	-	-
#70	-	-	-	-	-	-	-	-
#80	-	-	31.2	-	31.2	-	-	-
#100	-	-	7.75	13.5	7.75	-	-	-
#140	-	-	-	-	13.3	7.04	-	-
#200	-	-	-	24.5	-	-	11.8	-
#325	-	-	-	15.3	-	47.5	-	18.7
Fines	81.4	85.9	25	-	25	-	-	-
Ø mean	0.7	0.5	0.026	0.13	0.26	0.12	0.08	0.05

Custom Sizes Upon Request

For any questions or concerns, please contact RockRidge Abrasives at:
 855-883-6245
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