# Ground Calcium Carbonate (GCC)

Nano Calcium Carbonate & Micronized Coated Calcium Carbonate



For more details, please send queries to:



# MINERAL TECHNIQA,

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This specification supersedes any former publication and is subject to change without notice.



Particle Size Distributio Graph- Calcia



Sample Name: Calcium Carbonate - Average		SOP Name:					Measured: 06 October 2010 14:52:47																
Sample Source & type: Mineral technica			Measured by: applab				Analysed: 06 October 2010 14:52:48																
Sample bulk lot ref:		Result Source: Averaged																					
Particle Name: CaCO3 Particle RI: 1.680 Dispersant Name: Water Concentration: 0.0015 %Vol			Accessory Name: Hydro 2000S (A) Absorption: 0.01 Dispersant RI: 1.330					Analysis model: General purpose Size range: 0.020 to 2000.000 um Weighted Residual: 1.190 %				Sensitivity: Normal Obscuration: 7.76 % Result Emulation: Off											
														<b>Span</b> : 1.729				Uniformity: 0.541			2	Result units: Volume	
														Specific Surface Area: 3.24 m²/g			Surface Weighted Mean D[3,2]: 1.851 um				Vol. Weighted Mean D[4,3]: 2.573 um		
			d(0.1):	1.023	um			d(0.5	): 2.141	um				d(0.9):	4.726	um							
					Pa	article Size I	lstribution						-										
Volume (%)	9 8 7 6 5 4 3 2 1 0				/																		
	0.	01	0.	1	1		10	1	100	100	00 30	00											
	alaiuma (	Corbora-	A		P	article Si	ze (µm)						-										
		Januonat				14.52.4			loins to she	6111-2	<u> </u>												
0	0.010 0.011 0.013 0.015 0.017 0.020	0.00 0.00 0.00 0.00 0.00 0.00	0.105 0.120 0.138 0.158 0.158 0.182 0.209	0.00 0.00 0.00 0.00 0.00 0.00 0.00	1.096 1.259 1.445 1.660 1.905 2.188	12.64 18.80 26.05 34.11 42.64 51.35	11.482 13.183 15.136 17.378 20.000 22.909	99.85 99.91 99.95 99.96 100.00 100.00	120.670 138.038 158.489 181.970 208.930 239.883	100.00 100.00 100.00 100.00 100.00 100.00	1258.90 1445.44 1659.58 1905.46 2187.76 2511.88	Control         Work           100,00         100,00           100,00         100,00           101,00         100,00           101,00         100,00           102,00         100,00           102,00         100,00           100,00         100,00											
	0.023 0.026 0.030 0.035	0.00 0.00 0.00 0.00	0.240 0.275 0.316 0.363	0.00 0.00 0.00 0.00	2.512 2.884 3.311 3.802	59.91 68.02 75.43 81.91	26.303 30.200 34.674 41.430	100.00 100.00 100.00 100.00	275.423 316.228 363.078 416.869	100.00 100.00 100.00 100.00	2884.03 3311.31 3801.89 4365.15	12 100.00 11 100.00 14 100.00 18 100.00											
	0.040 0.046 0.052 0.060	0.00 0.00 0.00 0.00	0.417 0.479 0.550 0.631	0.00 0.00 0.04 0.51	4.365 5.012 5.754 6.607	87.36 91.73 95.07 97.45	48.270 52.481 60.256 65.510	100.00 100.00 100.00 100.00	478.630 549.541 630.957 724.436	100.00 100.00 100.00 100.00	5011.87 5754.39 6606.93 7585.77	2 100.00 9 100.00 4 100.00 76 100.00											
	0.069 0.079 0.091	0.00 0.00 0.00	0.724 0.832 0.955	1.83 4.16 7.74	7.586 8.710 10.000	98.93 99.58 99.75	76.000 91.201 103.580	100.00 100.00 100.00	831.764 954.993 1096.478	100.00 100.00 100.00	8709.63 10000.00	6 100.00 0 100.00											

Operator notes:

	Malvern Instruments Ltd.
	Malvern, UK
5C_	Tel := +[44] (0) 1684-892456 Fax +[44] (0) 1684-892789

Mastersizer 2000 Ver. 5.60 Serial Number : MAL1003065 File name: Mineral Technica Zirox (V-136-10) 06.10.10 Record Number: 36 07/10/2010 16:57:26

# Particle Size Distributio Graph- Calcia 15





Sample Name: Calcium Carbonate Raw - A	SOP Name: verage		Measured: 08 October 2010 15:0	Measured: 08 October 2010 15:07:02				
Sample Source & type: Mineral technica	Measured by: applab		Analysed: 08 October 2010 15:07					
Sample bulk lot ref:	Result Source: Averaged							
Particle Name: CaCO3	Accessory Name: Hydro 2000S (A)	i i	Analysis model: General purpose	Sensitivity: Normal Obscuration: 14.32 % Result Emulation: Off Result units: Volume				
Particle RI:	Absorption:		Size range:					
1.680	0.01		0.020 to 2000					
Vater	1.330		0.635 %					
Concentration: 0.0067 %Vol	<b>Span</b> : 1.987		Uniformity: 0.616					
Specific Surface Area: 1.59 m²/g	Surface Weighted 3.780 um	Mean D[3,2]:	Vol. Weighted Mean I 6.143 um					
d(0.1): 1.852 (	m d(	0.5): 5.082 un	1	d(0.9):	11.949	um		
۹		Particle Size Distribution	0		<b>_</b> 1			
8								
7								
୍ବ <mark>6</mark>		/			- 1			
°) e 5		/						
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° 3		/			- 1			
2	/			· · · · · ·	-			
1		<b>\</b>			- 1			
8.01	0.1 1	10	100	1000 3	000			
8.01	0.1 1	10 Particle Size (µm)	100	1000 3	000			
0.01 —Calcium Cark	0.1 1 onate Raw - Average, 08 Octo	10 Particle Size (μm) ber 2010 15:07:02	100	1000 3	000			
Calcium Cart	0.1 1 onate Raw - Average, 08 Octo Size (µm) Vol Under% Size (µm)	10 Particle Size (µm) ober 2010 15:07:02	100 10 Under % Size (µm) Voi U	1000 3 Jnder% Size(	U 000 µm) Voi Under%			
Calcium Cart	0.1 1 onate Raw - Average, 08 Octo % Size (um) Vol Under % Size (um) 0 0.105 0.00 1.250 0 0.120 0.00 1.250	10           Particle Size (μm)           ober 2010 15:07:02           Vol Under %           5           1.98           3.38           13.183	100 (a) Under % Size (µm) Vol U 88.73 120.670 92.74 138.038	1000 3 Jnder % Sze ( 100.00 1258 100.00 1445	(Under %) (325 100.00 (440 100.00			
Calcium Cart	0.1 1 onate Raw - Average, 08 Octo % Size(um) VolUnder% Size(um) 0 0.105 0.00 0 0.120 0.00 0 0.138 0.00 1.445 0 0.158 0.00 1.451 0 0.058 0.00 1.451 0 0.00 0	10           Particle Size (μm)           yber 2010 15:07:02           Vol Under %           1.98           1.98           1.482           3.38           5.26           7.67           7.777	100 6/ Under % Size (µm) Vol U 88.73 92.74 96.73 188.499 97.70 188.499 97.70 188.499	1000 3 1000 Sze( 100.00 1258 100.00 1445 100.00 1659 100.00 1659	um) Vol Under % 			
Calcium Cart 	0.1         1           onate Raw - Average, 08 Octo           %         Size (µm)         Vol Under %         Size (µm)           00         0.105         0.00         1.096           00         0.125         0.00         1.296           00         0.138         0.00         1.445           00         0.158         0.00         1.466           00         0.152         0.00         1.906	Size         μm)           Vol Under %         Size (μm)           Vol Under %         Size (μm)           5         1.98           11.482         3.38           5         15.136           7.67         17.378           10.66         20.000	Size (µm)         Vol I           88.73         120.670           92.74         138.038           95.73         158.489           97.79         181.970           99.07         208.930	1000 3 Inder % Size ( 100.00 1258 100.00 1445 100.00 1905 100.00 2187	000 1925 100.00 1935 100.00 1937 100.00 1937 100.00 1937 100.00 1937 100.00 1938 100.00 1939 100.00			
Calcium Cart 	0.1         1           onate Raw - Average, 08 Octo           %         Size (µm)         Vol Under %         Size (µm)           00         0.105         0.00         1.096           00         0.120         0.00         1.295           00         0.138         0.00         1.445           00         0.158         0.00         1.906           00         0.182         0.00         1.906           00         0.209         0.00         2.512	Size         μμ)           vol Under %         Size (μm)           3.38         11.482           5.26         15.136           7.67         17.378           10.66         20.000           14.28         22.909           14.56         26.933	100 30 Under % Size (µm) Vol U 88.73 120.670 92.74 138.038 96.73 188.489 97.79 181.970 99.07 208.930 99.78 239.883 99.99 275.423	1000 3 1000 1258 100.00 1445 100.00 1659 100.00 1659 100.00 2187 100.00 2511 100.00 2984	UDD UDD UDD UDD UDD UDD UDD UDD			
8.01 	0.1         1           onate Raw - Average, 08 Octo           %         Size (µm)         Vol Under %         Size (µm)           00         0.105         0.00         1.096           00         0.120         0.00         1.259           00         0.138         0.00         1.445           00         0.138         0.00         1.966           00         0.122         0.00         1.966           00         0.209         0.00         2.188           00         0.275         0.00         2.884	Size (μm)           vber 2010 15:07:02           Vol Under %           5           2           1.98           11.482           3.38           13.183           5           7.67           17.378           10.66           2.2009           18.56           2.351           30.200	Size (µm)         Vol U           8873         120.670           9274         138.038           9573         158.489           97.79         181.970           99.07         228.833           99.99         275.423           100000         316.228	1000 3 Inder % Size ( 100.00 1258 100.00 1445 100.00 1659 100.00 1905 100.00 2511 100.00 2511 100.00 2844 100.00 3311	Vol Under %           925         100.00           640         100.00           441         100.00           461         100.00           486         100.00           311         100.00			
Size (um) Vol Unos 	0.1         1           onate Raw - Average, 08 Octo           %         Size(µm)         Vol Under %         Size(µm)           00         0.105         0.00         1.096           00         0.120         0.00         1.259           00         0.138         0.00         1.445           00         0.158         0.00         1.906           00         0.162         0.00         1.906           00         0.209         0.00         2.512           00         0.240         0.00         2.512           00         0.275         0.00         3.802           00         0.316         0.00         3.802	I0           Particle Size (μm)           ober 2010 15:07:02           Vol Under %           1.98           1.98           1.98           1.1482           3.38           5.526           15.136           7.67           10.66           2.300           14.28           22.51           30.200           29.13           34.674           2.3.35	Size (µm)         Val           88.73         120.670           92.74         138.038           96.73         158.489           97.79         181.970           99.07         228.930           99.99         275.423           100.00         316.228           100.00         416.869	1000 3 1000 1258 100.00 1258 100.00 1445 100.00 1905 100.00 2187 100.00 2511 100.00 2511 100.00 3301 100.00 3301 100.00 4365	Vol Under %           925         100.00           440         100.00           557         100.00           461         100.00           762         100.00           366         100.00           311         100.00           314         100.00           314         100.00           145         100.00			
8.01 	0.1         1           onate Raw - Average, 08 Octo           %         Size(µm)         Vol Under %         Size(µm)           00         0.105         0.00         1.090           00         0.120         0.00         1.290           00         0.138         0.00         1.445           00         0.158         0.00         1.906           00         0.182         0.00         1.906           00         0.209         0.00         2.512           00         0.275         0.00         2.894           00         0.363         0.00         3.802           00         0.363         0.00         3.802           00         0.417         0.00         4.365	10           Particle Size (μm)           ober 2010 15:07:02           100           198           198           198           198           198           198           198           11482           338           526           15136           767           17378           2000           1428           2250           1856           2351           30200           2913           4674           2355           41430           4211           48270	Size (µm)         Vol U           61 Under %         Size (µm)         Vol U           88.73         120.670         92.74           92.74         138.038         96.73           97.79         181.970         99.07           99.07         208.930         99.78           99.09         275.423         100.00           100.00         316.228         100.00           100.00         416.899         100.00           100.00         549.631         100.00	1000 3 1000 1258 100.00 1258 100.00 1445 100.00 1659 100.00 2511 100.00 2511 100.00 2511 100.00 3301 100.00 3301 100.00 4365 100.00 5754 100.00 57	Vol Under %           3925         100.00           440         100.00           587         100.00           587         100.00           686         100.00           311         100.00           458         100.00           311         100.00           458         100.00           311         100.00           359         100.00			

#### Operator notes:

Malvern Instruments Ltd. Malvern, UK

Mastersizer 2000 Ver. 5.60 Serial Number : MAL1003065

71.16 77.81 83.73

76.000

91.201 103.580

100.00

100.00 100.00

831.764

954.993 1096.478

100.00

100.00 100.00

8709.636

10000.000

File name: Mineral Technica Zirox (V-136-10) 06.10.10 Record Number: 97 08/10/2010 16:53:14

100.00

100.00

Tel := +[44] (0) 1684-892456 Fax +[44] (0) 1684-892789

0.069

0.079

0.00 0.00 0.00

0.724 0.832 0.955

0.09 0.37 1.00

7.586 8.710 10.000

# Applications & usage of Calcium Carbonate powders

Calcite is popularly known as Ground calcium carbonate (GCC).Ground calcium carbonate is used in paint. Coarser grades act as simple fillers and can control gloss, finer grades can be used as extenders. Whiteness, brightness, yellowness are the key factors effecting the values of Carbonate.

Plastics are benefitted due to addition of ground calcium carbonate (GCC), which increases rigidity, transparency, mechanical properties like tensile strength and impact strength. PVC profiles are an example.

The film producers consume fine calcium carbonate to reduce the formulation cost. Calcium carbonate is used to make breathable film for the diaper applications.

Adhesives & sealants use ground calcium carbonates (GCC) to adjust rheological properties and to give the sealant "body", colour. Sealants require a white mineral filler to maintain a white or light colour.

Ground calcium carbonate is used in paper, inks, pharmaceutical, ceramic, foods, cosmetics also.

Mineral Techniqa supplies nano,2um,5um,10um as an average particle sized micronized fillers and extenders engineered out of natural ground calcium carbonate powders. We can undertake to produce ground calcium carbonate in sub micronised particle and nano crystalline range.