

AGGREGATE PROPERTIES DATA SHEET

Unit :-	Cornelly Quarry
Address :-	Hoel Y Splott Road
	Cornelly, Bridgend
	Mid Glamorgan
	CF33 4RD
Tel :-	



South West & South Wales Region
Stancombe Lane
Flax Bourton
Bristol, BS48 3QD
Tel: 01275 464441
Type of deposit / Rock Type
Carboniferous Limestone
Aggregate Colour : Light Grey

				0/4mm SINTER	0/4mm CFA PANT MAWR	2/6mm Single Size	4/10mm Single Size	6/14mm Single Size	10/20mm Single Size	4/20mm Graded	20/32mm Single Size	20/40mm Single Size
Los Angeles Abrasion		EN 1097-2	LA	n/a	n/a	n/a	n/a	25	n/a	n/a	n/a	n/a
Micro-Deval		EN 1097-1 (wet condition)	Mde	n/a	n/a	n/a	n/a	14	n/a	n/a	n/a	n/a
Aggregate Abrasion Value		EN 1097-8	AAV	n/a	n/a	n/a	n/a	9.3	n/a	n/a	n/a	n/a
Magnesium Sulphate Soundness Value		EN 1367-2	MSSV	n/a	n/a	n/a	n/a	4	n/a	n/a	n/a	n/a
Polished Stone Value		EN 1097-8	PSV	n/a	n/a	n/a	n/a	39	n/a	n/a	n/a	n/a
Apparent Particle Density		EN 1097-6	Mg/m³	2.71	2.74	2.69	2.71	2.70	2.70	2.71	2.71	2.70
S.S.D. Density		EN 1097-6	Mg/m³	2.70	2.73	2.59	2.64	2.66	2.67	2.67	2.68	2.67
Oven Dry Density (Pp)		EN 1097-6	Mg/m³	2.69	2.72	2.54	2.60	2.63	2.65	2.64	2.66	2.66
Water Absorption		EN 1097-6	WA24 %	0.3	0.3	2.2	1.5	1.0	0.8	0.9	0.7	0.6
Loose Bulk Density of Aggregate (Pb)		EN 1097-3	Mg/m³	1.61	1.35	1.37	1.41	1.37	1.29	1.44	1.37	1.36
Compacted Bulk Density of Aggregate (Pb)		EN 1097-3	Mg/m³	1.77	1.70	1.55	1.54	1.67	1.45	1.63	1.60	1.58
Voids - Loose	V= (Pp-Pb)/Pp x 100	Calculated from LBD/CBD (Pb) & Oven Dry Density (Pp); EN 1097-3	%	40	50	46	46	48	51	45	48	49
Voids - Compacted			%	34	38	39	41	37	45	38	40	41
Flakiness Index (in-house average)			FI	EN 933-3	-	n/a	n/a	25	18	16	13	n/a
Methylene Blue	MB	BS EN 933-9	g/kg	0.5	0.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Magnesium Sulphate Soundness (Airfield)		DWFS Current Airfield Spec	-	6	7	13	7	2	4	n/a	n/a	n/a
Carbon Dioxide	CO₂	BS EN 196-2	%	38.76	39.57	n/a	n/a	n/a	n/a	40.92	n/a	n/a
Calcium Carbonate Equivalent	CaCO₃	BS EN 196-2	%	88.09	89.93	n/a	n/a	n/a	n/a	93.00	n/a	n/a
Water Soluble Chloride (ION) Content	C	EN 1744-1	%	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001
pH Value	-	BS 1377-3	-	8.6	8.7	8.7	8.7	8.6	8.7	8.7	8.7	8.7
Total Sulfur Content	S	EN 1744-1 Cl. 11	%	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Water Soluble Sulfate	SO₃	EN 1744-1 Cl. 10	%	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	SO₄		%	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	SO₄		mg/L	<50	<50	<50	<50	<50	<50	<50	<50	<50
Acid Soluble Sulfate	SO₃	EN 1744-1 Cl. 12	%	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
	SO₄		%	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
	SO₄		%	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Dry Shrinkage	** Next due 2028 **	BSEN 1367-4	%	0.018 (2023)	0.016 (2023)	n/a	n/a	n/a	n/a	0.019 (2023)	n/a	n/a
Neutralising Value	CaO Equivalent	BS 6463 - 102	%	49.40	50.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total Sulfur		BS 1377; ICP-AES Method 17 (TRL 447 Test 4)	%	<0.01	<0.01	n/a	0.01	<0.01	0.01	<0.01	n/a	n/a
Total Potential Sulfate	SO₄		%	<0.03	<0.03	n/a	0.03	<0.03	0.03	<0.03	n/a	n/a
Acid Soluble Sulfate	SO₄	BS 1377; ICP-AES Method 4 (TRL 447 Test 2)	%	0.02	0.02	n/a	0.02	0.02	0.02	0.02	n/a	n/a
Water Soluble Sulfate	SO₄	BS 1377; ICP-AES Method 2 (TRL 447 Test 1)	mg/L	<10	11	n/a	<10	11	<10	<10	n/a	n/a
Oxidisable Sulfides	SO₄	TRL Report 447 Test 2 & 4	%	<0.01	<0.01	n/a	0.01	<0.01	0.01	<0.01	n/a	n/a
Total Reduced Sulfur		BS 1377; ICP-AES (TRL 447 Test 3)	%	<0.01	<0.01	n/a	<0.01	<0.01	<0.01	<0.01	n/a	n/a
Binder Affinity	Rolling Bottle Method - Part A	EN 12697-11	% COVERAGE @ 6 HOURS	n/a	n/a	n/a	n/a	85	n/a	n/a	n/a	n/a
			% COVERAGE @ 24 HOURS	n/a	n/a	n/a	n/a	65	n/a	n/a	n/a	n/a
	Static Method - Part B	EN 12697-11 (as per DWFS Airfield Spec)	% BINDER REQUIRED TO COVER AGGS	n/a	n/a	n/a	n/a	4	n/a	n/a	n/a	n/a
			No. PARTICLES UNCOATED AFTER ROLLING	n/a	n/a	n/a	n/a	0	n/a	n/a	n/a	n/a
** Test every 3 years if results are consistently below 0.05%; Test every 5 years if results are consistently below 0.03%: 2020 = 0.024, 2022-23 Av. = 0.026, 2023-24 Av. = 0.019... Test every 5 Years going forwards **												

Quantification of Metals & Hexavalent Chromium (mg/kg) BS EN 1744-1 (tested every 3 years)	
	0/4mm SINTER
Arsenic	1.0
Cadmium	0.5
Chromium	3.4
Copper	5.4
Cobalt	-
Mercury	<0.05
Molybdenum	-
Nickel	<1.0
Lead	4.2
Antimony	-
Selenium	<0.5
Tin	-
Boron (Water Soluble)	<0.2
Zinc	15.0
Hexavalent Chromium	-
Next report due January 2025	

Chemical Oxide Analysis; X-Ray Fluorescence (tested every 3 years)		
		0/4mm SINTER
Al₂O₃	%	0.09
Fe₂O₃	%	0.15
TiO₂	%	0.01
MgO	%	2.81
BaO	%	<0.01
SiO₂	%	2.17
CaO	%	51.14
K₂O	%	<0.01
Na₂O	%	<0.02
P₂O₅	%	0.03
SO₃	%	0.03
Mn₂O₃	%	0.03
Loss on Ignition	%	43.20
Next report due January 2025		

Chemical Oxide Analysis; X-Ray Diffraction (tested every 3 years)	
	0/4mm SINTER
Hematite	-
Dolomite	10.7
Kaolinite	-
Chlorite	-
Quartz	2.5
Goethite	-
K Feldspar	-
Plagioclase	-
Calcite	86.8
Tourmaline	-
Pyrite	-
Total	100
Next report due January 2025	

PETROGRAPHIC ANALYSIS ***	
BS 812-104 & EN 932-3	
0/4mm Sinter, 0/4mm CFA (Pant Mawr) & 10/20mm	
See seperate report (***) Due every 3 years) which also details Alkali Silica Reactivity in accordance with BRE Digest 330	
POTENTIAL REACTIVITY DESCRIBED AS:	
LOW	
Current Petrographic reports dated:	11/03/2022
Next Petrographic report due:	March 2025

Quantification of Metals & Hexavalent Chromium (mg/kg) BS EN 1744-1 (tested every 3 years)	
	0/4mm CFA
Arsenic	2.7
Cadmium	0.5
Chromium	4.2
Copper	7.2
Cobalt	-
Mercury	<0.05
Molybdenum	-
Nickel	1.9
Lead	7.5
Antimony	-
Selenium	<0.5
Tin	-
Boron (Water Soluble)	<0.2
Zinc	18.0
Hexavalent Chromium	-
Next report due January 2025	

Chemical Oxide Analysis; X-Ray Fluorescence (tested every 3 years)		
		0/4mm CFA
Al₂O₃	%	0.43
Fe₂O₃	%	0.23
TiO₂	%	0.04
MgO	%	0.72
BaO	%	<0.01
SiO₂	%	3.54
CaO	%	52.47
K₂O	%	0.04
Na₂O	%	<0.02
P₂O₅	%	0.03
SO₃	%	0.03
Mn₂O₃	%	0.06
Loss on Ignition	%	42.10
Next report due January 2025		

Chemical Oxide Analysis; X-Ray Diffraction (tested every 3 years)	
	0/4mm CFA
Hematite	-
Dolomite	0.8
Kaolinite	-
Chlorite	-
Quartz	3.3
Goethite	-
K Feldspar	-
Plagioclase	-
Calcite	95.9
Tourmaline	-
Pyrite	-
Total	100
Next report due January 2025	

Approved UKAS Laboratories		For Tarmac Quarry Materials	
Test Houses	Accreditation No. 0989	Kevin Cox	
Celtest	Accreditation No. 0494	Technical Systems Manager	
Corus	Accreditation No. 2007	07872 672913	

The above data is provided in good faith as a guide to typical values and does not constitute a specification. The company reserves the right to revise the data at any time. Individual certification is available on request.	Validation Period
	February 2023 - January 2024