LYTAG™
lightweight solutions

Drax Power Station
Selby
North Yorkshire
YO8 8PH
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Source:	Drax Power station	**Issue Date:**	Sep-17
Address:	Selby		
	North Yorkshire	**Aggregate Type**	Manufactured Sintered PFA aggregate
	YO8 8PH	**Particle Shape**	Rounded/ sub-rounded high sphericity
Telephone:	+44 (0)1904 727922		

AGGREGATE PROPERTIES SUMMARY DATA SHEET

Test Description		Specification Reference	^0/4mmC	^4/8mmC	4/8mm	8/14mm	4/14mm	Date
Bulk Density (Mg/m3)	Loose	BS EN 13055-1:2002/ BS EN 13055-2:2004/ BS EN 1097-3:1998	1.05	0.75	0.75	0.74	0.80	Sep-17
	*Compacted							
Particle Density (Mg/m3)	Apparent	BS EN 1097-6:2000 ANNEX C	1.89	1.80	1.86	1.83	1.77	Sep-17
	S.S.D		1.80	1.62	1.65	1.65	1.61	Sep-17
	Oven Dry		1.17	1.41	1.41	1.44	1.41	Sep-17
Water Absorption (%)	30 Min			12.5	13.6	11.9	11.6	Sep-17
	24 Hr		5.7	16.5	16.7	14.8	14.6	Sep-17
Uniformity Coefficient			>5	<3	<3	<3	<3	Sep-17
Crushing Resistance (N/mm^2)		BS EN 13055-1:2002 ANN. A		9.2	9.1	8.7	11.0	Sep-17
Disintegration Resistance (% loss)		BS EN 13055-1&2 ANN B						
Freeze/ Thaw Resistance (% loss)		BS EN 13055-1 ANNEX B						
Freeze/ Thaw Resistance (% loss)		BS EN 1367-1:2007		3.3		3.1		Jul-17
Crushed Particles (%)		BS EN 933-5:1998		52.0				Sep-16
Laboratory CBR (%)		BS 1377-4, Cl7:1990				13.0		Jul-17
Laboratory CBR (%)**		BS 1377-4, Cl7:1990				31.0		Mar-16
Immediate Bearing Index		BS EN 13286-47						
Angle of Internal Friction		BS 1377-7/ SHW cl.636			44.0	"39	42.0	Jan-16
Effective Cohesion (kPa)					17.0	"36	29.0	Jan-16
Frost Heave of unbound aggregate(mm)**		BS812-124:2009 Ann.B**			3.7 Non frost susceptible			Apr-16
Fragmentation Resistance (LA)		BS EN 1097-2:2010				33.0		Jul-17
Wear Resistance (MicroDeval - wet)		BS EN 1097-1:2011				41.0		Jul-17
Aggregate Abrasion Value (AAV)		BS EN 1097-8:2009 Ann.A				23.0		Jul-17
Resistance to polishing (PSV)		BS EN 1097-8:2009						
Drying Shrinkage (%)		BS EN 1367-4:2008	0.021				0.041	Jan-16
Petrographic Analysis		BS EN 923-3:1997	Main constituent = Fuel ash; Shape = Sub-rounded to well rounded sporadically subangular; Surface texture = Moderately rough to moderately smooth; Coating = Abundant iron oxide staining.					Jul-17
Potential Alkali Reactivity	Classification	Table 2 BRE Digest 330 pt2; Table B.2 BS 8500-2				Low		Jul-17
	Expansion (%)	ASTM 1260 (Accelerated Mortar Bar Method)					0.025	Feb-16
Magnesium sulfate soundness		BS EN 1367-2:2009						
Water Soluble Chloride Content (%)	C	BS EN 1744-1:2009+A1:2012, cl7	<0.001					Jul-17
Water Soluble Sulfate Content (%)	SO_3	BS EN 1744-1:2009+A1:2012, cl10.1	0.17					Jul-17
Water Soluble Sulfate Content (%)	SO_4	BS EN 1744-1:2009+A1:2012, cl10.1	0.21					Jul-17
Water Soluble Sulphur Content (mg/l)	SO_4	BS 1377-1990 ICP-AES method 2 (TRL report 447 method 1)	340					Jul-17
Acid Soluble Sulfate Content (%)	SO_3	BS EN 1744-1,Cl12:2009+A1:2012	0.10					Jul-17
Acid Soluble Sulfur Content (%)	SO_4	TRL 447 & BS 1377:1990: ICP-AES method 4 (test no.2)	0.18					Jul-17
Total Sulfur Content (%) & Total Potential Sulfur (%)	SO_4	BS 1377:1990: ICP-AES Method 17 (TRL report 447 test no.4)	0.10 0.29					Jul-17
Total Sulfur Content (%)	S	BS EN 1744-1:2009+A1:2012, cl11	0.10					Jul-17
Oxidisable Sulfides (%)	OS	TRL 447: Test no.2 & Test no.4	0.11					Jul-17
	SiO_2		50.6					
	TiO_2		1.04					

XRF Chemical Analysis	Al_2O_3		25.53						Jul-17
	Fe_2O_3		9.67						
	Mn_3O_4		0.07						
	MgO		1.81						
	SO_3		0.22						
	NiO								
	CaO		3.03						
	Na_2O		0.75						
	Na_2O(equ)		2.45						
	K_2O		2.79						
	P_2O_5		0.35						
	BaO		0.23						
	V_2O_5		0.08						
	Cr_2O_3								
Loss on Ignition (%)		BS EN 1744-1:2009+A1:2012, cl17	2.9						Jul-17
pH Value		BS EN 1377-3, cl9	9.4						Jul-17
Permeability Coefficient (m/sec)	Loose	BS 1377-5:1990			$1.476x10^{-1}$	$1.376x10^{-1}$			Jan-16
	Compacted			$4.174x10^{-2}$		$9.864x10^{-2}$			Jul-17
Plasticity Index		BS 1377-2,Cl 5.3, 4.3, 5.4:1990					Non Plastic		Jan-16
Thermal Conductivity (W/m.k)		ASTM D5334	0.197			0.060			Jan-16
Thermal Resistivity ($^oC.m/W$)		ASTM D5334	5.076			16.770			Jan-16
Thermal Expansion ($x10^{-6}/^oC$)									
Aggregate size	Undersize	EN 933-1:2012							
	Oversize								
Water Content (%)		BS EN 1097-5:2008	Please contact Lytag Technical Department for latest results						
Grading		BS EN 933-1:2012							
Fines (% passing 0.063mm)		BS EN 933-1:2012							
Comments	*In-house procedure. ^Crushed from 14mm+ Granular Lytag. Values obtained during Jan-Mar 17 crushing campaign. **Lytag granular tested as 6N/6I target specification in accordance with SHW Cl 801.8. "Jun 2017								

Martyn Fielding

Technical & Quality Manager