

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)					Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:				
						Lower	Upper			
I G E N E R A L	Well graded granular material	General Fill	Any material, or combination of materials, other than material designated as Class 3 in the Contract. (Properties (i), (ii) and (iv) in next column, shall not apply to chalk). Recycled aggregate	(i) grading	BS 1377 : part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 2	1 A	
				(ii) uniformity coefficient	See Note 5	10	-			
				(iii) mc	BS 1377 : Part 2	App 6/1	App 6/1			
				(iv) MCV	Clause 632	App 6/1	App 6/1			
				(v) IDD of chalk	Clause 634	-	App 6/1			
I G R A N U L A R	Uniformly graded granular material	General Fill	Any material, or combination of materials, other than chalk. Recycled aggregate	(i) grading	BS 1377 : Part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 3	1 B	
				(ii) uniformity coefficient	See Note 5	-	10			
				(iii) mc	BS 1377 : Part 2	App 6/1	App 6/1			
				(iv) MCV	Clause 632	App 6/1	App 6/1			
I F I L L	Coarse granular material	General Fill	Any material, or combination of materials, other than material designated as Class 3 in the Contract. (Properties (i) and (ii) in next column, shall not apply to chalk). Recycled aggregate	(i) grading	BS 1377 : Part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 5	1 C	
				(ii) uniformity coefficient	See Note 5	5	-			
				(iii) Los Angeles coefficient	Clause 635	-	50			

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)					Compaction Requirements in Clause 612	Class	
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:		2		A	-
						Lower	Upper				
2	Wet cohesive material	General Fill	Any material, or combination of materials, other than chalk.	(i) grading	BS 1377 : part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 1 except for materials with liquid limit greater than 50, determined by BS1377 : Part 2, only deadweight tamping or vibratory tamping rollers or grid rollers shall be used.	2	A	-
				(ii) plastic limit (PL)	BS 1377 : part 2	-	-				
				(iii) mc	BS 1377 : Part 2	PL -4%	App 6/1				
				(iv) MCV	Clause 632	App 6/1	App 6/1				
				(v) Undrained shear strength of remoulded material	Clause 633	App 6/1	App 6/1				
2	Dry cohesive material	General Fill	Any material, or combination of materials, other than chalk	(i) grading	BS 1377 : Part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 2	2	B	-
				(ii) plastic limit (PL)	BS 1377 : Part 2	-	-				
				(iii) mc	BS 1377 : Part 2	App 6/1	PL -4%				
				(iv) MCV	Clause 632	App 6/1	App 6/1				
				(v) undrained shear strength of remoulded material	Clause 633	App 6/1	App 6/1				

TABLE 6/1: Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)					Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:				
						Lower	Upper			
2	Stony cohesive material	General Fill	Any material, or combination of materials, other than chalk	(i) grading	BS 1377 : part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 2	2	
				(ii) plastic limit (PL)	BS 1377 : part 2	-	-			
				(iii) mc	BS 1377 : Part 2	App 6/1	App 6/1			
				(iv) MCV	Clause 632	App 6/1	-			
				(v) Undrained shear strength of remoulded material	Clause 633	App 6/1	-			
2	Silty cohesive material	General Fill	Any material, or combination of materials, other than chalk	(i) grading	BS 1377 : Part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 3	2	
				(ii) mc	BS 1377 : Part 2	App 6/1	App 6/1			
				(iii) MCV	Clause 632	App 6/1	App 6/1			
				(iv) undrained shear strength of remoulded material	Clause 633	App 6/1	App 6/1			
2	Reclaimed pulverised fuel ash cohesive material	General Fill	Reclaimed material from lagoon or stockpile containing not more than 20% furnace bottom ash	(i) mc	BS 1377 : Part 2	To enable compaction to Clause 612		End product 95% of maximum dry density of BS 1377 : Part 4 (2.5 kg rammer method)	2	
				(ii) bulk density	BS 1377 : Part 9	App 6/1	App 6/1			

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)					Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:				
						Lower	Upper			
G F E I N L C H A L K	Chalk	General Fill	Chalk and associated materials all designated as Class 3 in the Contract	(i) mc	BS 1377 : Part 2	-	App 6/1	Tab 6/4 Method 4, or Method 1 if required in App 6/1. All types of vibratory rollers of Categories over 1800 kg shall not be used	3	-
				(ii) IDD	Clause 634	App 6/1	App 6/1		5	A
L F A I N L D L S C A P E	Various	Fill to landscape areas	See App 6/1	(i) grading	BS 1377 : Part 2	App 6/1	App 6/1	See Clause 620 and App 6/1	4	-
				(ii) mc	BS 1377 : Part 2	-	App 6/1		5	B
				(iii) MCV	Clause 632	App 6/1	App 6/1			
T O P S O I L	Topsoil, or turf, existing on site	Topsoiling	Topsoil or turf designated as Class 5A in the Contract	(i) grading	Clause 618	-	Clause 618	-	5	-
				-	-	-	-		5	B
	Imported topsoil	Topsoiling	General purpose grade complying with BS 3882	-	-	-	-	-	5	B

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:			
						Lower	Upper		
S E L E C T E D	Selected well graded granular material	Below water	Natural gravel, natural sand, crushed gravel, crushed rock other than argillaceous rock, crushed concrete, chalk, well burnt colliery spoil or any combination thereof. (Properties (i) and (ii) in next column, shall not apply to chalk.) Recycled aggregate	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	No compaction	6 A -
					BS EN 933-2 (Off-site)	Tab 6/5	Tab 6/5		
				(ii) uniformity	See Note 5	10	-		
				(iii) SMC of chalk index	Clause 634	-	20%		
G R A N U L A R	Selected coarse granular material	Starter layer	Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete, chalk, well burnt colliery spoil, slag or any combination thereof. (Properties (ii) and (iii) in next column, shall not apply to chalk.) Recycled aggregate	(iv) plasticity index	BS 1377 : Part 2	Non-plastic		Tab 6/4 Method 5	6 B -
				(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2		
					BS EN 933-2 (Off-site)	Tab 6/5	Tab 6/5		
				(ii) plasticity index	BS 1377 : Part 2	Non-plastic			
F I L L				(iii) Los Angeles coefficient	Clause 635	-	50		

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)					Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:				
						Lower	Upper			
6 S E L E C T E D G R A N U L A R F I L L	Selected uniformly graded granular material	Starter layer	Natural gravel, natural sand, crushed gravel, crushed rock other than argillaceous rock, crushed concrete, chalk, well burnt colliery spoil, slag or any combination thereof. (Property (iii) in next column, shall not apply to chalk.) Recycled aggregate	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	Tab 6/4 Method 3	6 C	
				(ii) uniformity coefficient	See Note 5	-	10			
				(iii) plasticity index	BS 1377 : Part 2	Non-plastic				
				(iv) Los Angeles coefficient	Clause 635	-	50			
				(v) mc	BS 1377 : Part 2	App 6/1	App 6/1			
6 D	Selected uniformly graded granular material	Starter layer below pulverised fuel ash	Natural gravel, natural sand, crushed gravel, crushed rock other than argillaceous rock, crushed concrete, chalk, well burnt colliery spoil, slag or any combination thereof. Recycled aggregate	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	Tab 6/4 Method 4	6 D	
				(ii) uniformity coefficient	See Note 5	-	10			
				(iii) plasticity index	BS 1377 : Part 2	Non-plastic				
				(iv) mc	BS 1377 : Part 2	App 6/1	App 6/1			
				(v) MCV	Clause 632	App 6/1	App 6/1			

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:			
						Lower	Upper		
6	Selected granular material (Class 9A)	For stabilisation with cement to form capping	Any material, or combination of materials, other than unburnt colliery spoil and argillaceous rock. (Properties (i), (ii) and (iii) in next column, shall not apply to chalk.) Recycled aggregate	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	Not applicable	6
					BS EN 933-2 (Off-site)	Tab 6/5	Tab 6/5		
				(ii) mc	BS 1377 : Part 2	-	App 6/1		
				(iii) liquid limit	BS 1377 : Part 2	-	45		
				(iv) plasticity index	BS 1377 : Part 2	-	20		
				(v) organic matter	BS 1377 : Part 3	-	App 6/1		
				(vi) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	3000 mg/l as SO ₄		
				(vii) oxidisable sulfides (OS) content	TRL Report 447, Tests No.2 and 4	-	0.6% as SO ₄		
				(viii) total potential sulfate (TPS) content	TRL Report 447, Test No. 4	-	1.2% as SO ₄		
				(ix) SMC of chalk	Clause 634	-	20%		
S E L E C T E D G R A N U L A R F I L L									

TABLE 6/1: (11/07) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class	
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:				
						Lower	Upper			
6	Selected granular material (fine grading)	Capping	Any material, or combination of materials, other than unburnt colliery spoil argillaceous rock and chalk. Recycled aggregate. Property (vi) in the next column shall not apply if Class A (asphalt content is 20% or less.	(i) grading	BS 1377 : Part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 6	6	F
				(ii) optimum mc	BS 1377 : Part 4 (vibrating hammer method)	-	-			
				(iii) mc	BS 1377 : Part 2	Optimum mc - 2%	Optimum mc			
				(iv) Los Angeles coefficient	Clause 635	-	60			
				(v) Class A (asphalt) content	Clause 710	-	50%			
				(vi) bitumen content	BS 598 : Part 102	-	2.0%			
6	Selected granular material (coarse grading)	Capping	Any material, or combination of materials, other than unburnt colliery spoil and argillaceous rock. (Property (i) in next column shall not apply to chalk.) Recycled aggregate. Property (vi) in the next column shall not apply if Class A (asphalt content is 20% or less.	(i) grading	BS 1377 : Part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 6	6	F
				(ii) optimum mc	BS 1377 : Part 4 (vibrating hammer method)	-	-			
				(iii) mc	BS 1377 : Part 2	Optimum mc - 2%	Optimum mc			
				(iv) Los Angeles coefficient	Clause 635	-	50			
				(v) Class A (asphalt) content	Clause 710	-	50%			
				(vi) bitumen content	BS 598 : Part 102	-	2.0%			

TABLE 6/1: (11/07) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)					Compaction Requirements in Clause 612	Class		
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:		6		F	3	
						Lower	Upper					
S E L E C T E D G R A	Selected granular material	Capping	Recycled bituminous planings and granulated asphalt, but excluding materials containing tar or tar-bitumen binders. Recycled aggregate	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	Tab 6/4 Method 6 Maximum Compacted layer thickness shall be 200 mm	6	F	3	
				(ii) optimum mc	Clause 613	-	-					
				(iii) mc	Clause 613	Optimum mc -2%	Optimum mc					
				(iv) Class A (asphalt) content	Clause 710	50%	-					
				(v) bitumen content	BS 598 : Part 102	-	10%					
N U L A R F I L L	Selected granular material (fine grading) - imported on to the Site	Capping	Unbound mixtures complying with BS EN 13285 Any material or combination of materials - including recycled aggregate, but excluding unburnt colliery spoil, argillaceous rock and chalk. Property (x) in the next column shall not apply if the Class A (asphalt) content is 20% or less.	(i) Size designation and overall grading category	BS EN 13285 - 0/31.5 and G_{60}	Tab 6/5	Tab 6/5	Tab 6/4 Method 6	6	F	4	
				(ii) Maximum fines and oversize categories	BS EN 13285 - U/F_{15} and OC_{15}	Tab 6/5	Tab 6/5					
				(iii) Los Angeles coefficient	BS EN 13242 - LA_{100}	-	60					
				(iv) Volume stability of blast furnace slag	BS EN 13242 - free from dicalcium silicate and iron disintegration	-	-					

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Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:			
						Lower	Upper		
SELECTED GRANULAR FILL	(contd)			(v) Volume stability of steel (BOF) and EAF slag	BS EN 13242 - V_3	-	-		
				(vi) Other aggregate requirements	BS EN 13242 - Category $_{sg}$ (no requirement)	-	-		
				(vii) Laboratory dry density and optimum water content	BS EN 13285, clause 5.3 - declared values	-	-		
				(viii) Water content	BS EN 1097-5	Optimum wc - 2%	Optimum wc		
				(ix) Class A (asphalt) content	Clause 710	-	50%		
				(x) bitumen content	BS 598 : Part 102	-	2.0%		

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Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:			
						Lower	Upper		
S E L E C T E D G R A N U L A R F I L L	Selected granular material (coarse grading) - imported on to the Site	Capping	Unbound mixtures complying with BS EN 13285 Any material or combination of materials - including recycled aggregate, but excluding unburnt colliery spoil, argillaceous rock and chalk. Property (x) in the next column shall not apply if the Class A (asphalt) content is 20% or less.	(i) Size designation and overall grading category	BS EN 13285 - 0/80 and G_E	Tab 6/5	Tab 6/5	Tab 6/4 Method 6	6
				(ii) Maximum fines and oversize categories	BS EN 13285 - U/F_{15} and OC_{15}	Tab 6/5	Tab 6/5		F
				(iii) Los Angeles coefficient	BS EN 13242 - LA_{50}	-	50		5
				(iv) Volume stability of blast furnace slag	BS EN 13242 - free from dicalcium silicate and iron disintegration	-	-		
				(v) Volume stability of steel (BOF) and EAF slag	BS EN 13242 - V_5	-	-		
				(vi) Other aggregate requirements	BS EN 13242 - Category NR (no requirement)	-	-		
				(vii) Laboratory dry density and optimum water content	BS EN 13285, clause 5.3 - declared values	-	-		
				(viii) Water content	BS EN 1097-5	Optimum WC - 2%	Optimum WC		
				(ix) Class A (asphalt) content	Clause 710	-	50%		
				(x) bitumen content	BS 598 : Part 102	-	2.0%		

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				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:		6		G	-	
						Lower	Upper					
S E L E C T E D G R A N U L A R F I L L	Selected granular material	Gabion filling	Natural gravel, crushed rock, crushed concrete or any combination thereof. None of these constituents shall include any argillaceous rock.	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	None	6	G	-	
					BS EN 933-2 (Off-site)	Tab 6/5	Tab 6/5					
				(ii) Los Angeles coefficient	Clause 635	-	50					
			Drainage layer to reinforced soil and anchored earth structures	Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete, chalk, well burnt colliery spoil or any combination thereof. None of these constituents shall include any argillaceous rock. (Properties (vi), (vii), (viii), (ix), (x), (xi) and (xii) in next column only apply when metallic reinforcing or anchor elements, facing units or fastenings are used.) (Properties (ii) and (v) in next column shall not apply to chalk.) Recycled aggregate except recycled asphalt	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	Tab 6/4 Method 3	6	H	-
						BS EN 933-2 (Off-site)	Tab 6/5	Tab 6/5				
					(ii) plasticity index	BS 1377 : Part 2	Non-plastic					
					(iii) Los Angeles coefficient	Clause 635	-	50				
					(iv) mc	BS 1377 : Part 2	App 6/1	App 6/1				
					(v) MCV	Clause 632	App 6/1	App 6/1				
					(vi) pH value	BS 1377 : Part 3	Tab 6/3	Tab 6/3				
					(vii) chloride ion content	BS EN 1744-1	-	Tab 6/3				
					(viii) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	Tab 6/3				
					(ix) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos. 2 and 4	-	Tab 6/3				
					(x) resistivity	Clause 637	Tab 6/3	-				
(xi) redox potential	Clause 638	Tab 6/3	-									
(xii) organic content	BS 1377 : Part 3	-	Tab 6/3									
(xiii) microbial activity index	Table 6/3	-	Tab 6/3									

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				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:			
						Lower	Upper		
S E L E C T E D G R A N U L A R F I L L	Selected well graded granular material	Fill to reinforced soil and anchored earth structures	Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete, slag, chalk, well burnt colliery spoil or any combination thereof except that chalk shall not be combined with any other constituent. None of these constituents shall include any argillaceous rock. (Properties (i), (ii) and (v) in next column shall not apply to chalk.) (Properties (viii), (ix), (x), (xi), (xii), (xiii) and (xiv) only apply when metallic reinforcing or anchor elements, facing units or fastenings are used.) Recycled aggregate except recycled asphalt	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	Tab 6/4 Method 2	6 1 -
				(ii) uniformity coefficient	See Note 5	10	-		
				(iii) SMC of chalk	Clause 634	-	20%		
				(iv) mc	BS 1377 : Part 2	App 6/1	App 6/1		
				(v) MCV	Clause 632	App 6/1	App 6/1		
				(vi) effective angle of friction (ϕ') and effective cohesion (c')	Clause 636	App 6/1	-		
				(vii) coefficient of friction and adhesion (fill/elements)	Clause 639	App 6/1	-		
				(viii) pH value	BS 1377 : Part 3	Tab 6/3	Tab 6/3		
				(ix) chloride ion content	BS EN 1744-1	-	Tab 6/3		
				(x) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	Tab 6/3		
				(xi) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos. 2 and 4	-	Tab 6/3		
				(xii) resistivity	Clause 637	Tab 6/3	-		
				(xiii) redox potential	Clause 638	Tab 6/3	-		
				(xiv) organic content	BS 1377 : Part 3	-	Tab 6/3		
				(xv) microbial activity index	Table 6/3	-	Tab 6/3		

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Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)					Compaction Requirements in Clause 612	Class	
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:		6		J	-
						Lower	Upper				
S E L E C T E D G R A N U L A R F I L L	Selected uniformly graded granular material	Fill to reinforced soil and anchored earth	Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete, slag, chalk, well burnt colliery spoil or any combination thereof, except that chalk shall not be combined with any other constituent. None of these constituents shall include any argillaceous rock. (Properties (viii), (ix), (x), (xi), (xii), (xiii) and (xiv) in next column only apply when metallic reinforcing or anchor elements, facing units or fastenings are used.) (Properties (i), (ii) and (v) in next column shall not apply to chalk.) Recycled aggregate except recycled asphalt	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	Tab 6/4 Method 3	6	J	-
				(ii) uniformity coefficient	See Note 5	5	10				
				(iii) SMC of chalk	Clause 634	-	20%				
				(iv) mc	BS 1377 : Part 2	App 6/1	App 6/1				
				(v) MCV	Clause 632	App 6/1	App 6/1				
				(vi) effective angle of friction (ϕ') and effective cohesion (c')	Clause 636	App 6/1	-				
				(vii) coefficient of friction and adhesion (fill/elements)	Clause 639	App 6/1	-				
				(viii) pH value	BS 1377 : Part 3	Tab 6/3	Tab 6/3				
				(ix) chloride ion content	BS EN 1744-1	-	Tab 6/3				
				(x) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	Tab 6/3				
				(xi) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos 2 and 4	-	Tab 6/3				
				(xii) resistivity	Clause 637	Tab 6/3	-				
				(xiii) redox potential	Clause 638	Tab 6/3	-				
				(xiv) organic content	BS 1377 : Part 3	-	Tab 6/3				
				(xv) microbial activity index	Table 6/3	-	Tab 6/3				

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)					Compaction Requirements in Clause 612	Class	
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:		6		K	
						Lower	Upper				
S E L E C T E D G R A N U L A R F I L L	Selected granular material	Lower bedding for corrugated steel buried structures	Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete, well burnt colliery spoil or any combination thereof. None of these constituents shall include any argillaceous rock. Recycled aggregate except recycled asphalt	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	End product 90% of maximum dry density of BS 1377 : Part 4 (Vibrating hammer method)	6	K	
				(ii) uniformity coefficient	See Note 5	5	-				
				(iii) plasticity index	BS 1377 : Part 2	-	6				
				(iv) optimum mc	BS 1377 : Part 4 (vibrating hammer method)	-	-				
				(v) mc	BS 1377 : Part 2	Optimum mc -2%	Optimum mc +1%				
				(vi) MCV	Clause 632	App 6/1	App 6/1				
				(vii) Los Angeles coefficient	Clause 635	-	40				
				(viii) resistivity	Clause 637	2000 ohm cm	-				
				(ix) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	300 mg/l as SO ₄				
				(x) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos 2 and 4	-	0.06% as SO ₄				
				(xi) chloride ion content	BS EN 1744-1	-	0.025%				
				(xii) pH value	BS 1377 : Part 3	6	9				
				(xiii) sulfide and hydrogen sulfide	Standard textbook of qualitative inorganic analysis	-	Rapid blackening of lead acetate paper				

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:			
						Lower	Upper		
S F E L L E C T E D G R A N U L A R	Selected uniformly graded granular material	Upper bedding for corrugated steel buried structures	Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete, well burnt colliery spoil or any combination thereof. None of these constituents shall include any argillaceous rock. Recycled aggregate except recycled asphalt	(i) grading	BS 1377 : Part 2 (On-site) BS EN 933-2 (Off-site)	Tab 6/2 Tab 6/5	Tab 6/2 Tab 6/5	None	6 L -
				(ii) resistivity	Clause 637	2000 ohm cm	-		
				(iii) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	300 mg/l as SO ₄		
				(iv) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos. 2 and 4	-	0.06% as SO ₄		
				(v) chloride ion content	BS EN 1744-1	-	0.025%		
				(vi) pH value	BS 1377 : Part 3	6	9		
				(vii) sulfide and hydrogen sulfide	Standard textbook of qualitative inorganic analysis	-	Rapid blackening of lead acetate paper		

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:			
						Lower	Upper		
S E L E C T E D G R A N U L A R F I L L	Selected granular material	Surround to corrugated steel buried structures	Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete, well burnt colliery spoil or any combination thereof. None of these constituents shall include any argillaceous rock. Recycled aggregate except recycled asphalt	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	End product 90% of maximum dry density of BS 1377 : Part 4 (Vibrating hammer method) unless otherwise stated in App 6/1	6
				(ii) uniformity coefficient	See Note 5	5	-		
				(iii) plasticity index	BS 1377 : Part 2	-	6		
				(iv) optimum mc	BS 1377 : Part 4 (vibrating hammer method)	-	-		
				(v) mc	BS 1377 : Part 2	Optimum mc -2%	Optimum mc +1%		
				(vi) MCV	Clause 632	App 6/1	App 6/1		
				(vii) Los Angeles coefficient	Clause 635	-	40		
				(viii) resistivity	Clause 637	2000 ohm cm	-		
				(ix) water soluble (WS) sulfate content	TRL Report 447 Test No. 1	-	300 mg/l as SO ₄		
				(x) oxidisable sulfides (OS) content	TRL Report 447 Tests Nos. 2 and 4	-	0.06% as SO ₄		
				(xi) chloride ion content	BS EN 1744-1	-	0.025%		
				(xii) pH value	BS 1377 : Part 3	6	9		
				(xiii) sulfide and hydrogen sulfide	Standard textbook of qualitative inorganic analysis	-	Rapid blackening of lead acetate paper		

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:			
						Lower	Upper		
S F E I L L E L C T E D G R A N U L A R	Selected well graded granular material	Fill to structures	Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete, slag, well burnt colliery spoil or any combination thereof. None of these constituents shall include any argillaceous rock. Recycled aggregate except recycled asphalt	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	End product 95% of maximum dry density of BS 1377 : Part 4 (vibrating hammer method)	6 N
				(ii) uniformity coefficient	See Note 5	10	-		
				(iii) Los Angeles coefficient	Clause 635	-	40		
				(iv) undrained shear parameters (c and ϕ)	Clause 633	App 6/1	-		
				(v) effective angle of internal friction (ϕ') and effective cohesion (c')	Clause 636	App 6/1	-		
				(vi) permeability	Clause 640	App 6/1	-		
				(vii) mc	BS 1377 : Part 2	App 6/1	App 6/1		
				(viii) MCV	Clause 632	App 6/1	App 6/1		
				(ix) slope stability test (where required in App 6/6)	Clause 610	App 6/6			

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)					Compaction Requirements in Clause 612	Class	
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:		6		P	
						Lower	Upper				
S E L E C T E D G R A N U L A R F I L L	Selected granular material	Fill to structures	Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete, slag, chalk, well burnt colliery spoil or any combination thereof. None of these constituents shall include any argillaceous rock. (Properties (i), (ii) and (ix) in next column shall not apply to chalk.) Recycled aggregate except recycled asphalt	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	End product 95% of maximum dry density of BS 1377 : Part 4 (vibrating hammer method)	6	P	
					BS EN 933-2 (Off-site)	Tab 6/5	Tab 6/5				
				(ii) uniformity coefficient	See Note 5	5	-				
				(iii) IDD of chalk	Clause 634	-	App 6/1				
				(iv) Los Angeles coefficient	Clause 635	-	60				
				(v) undrained shear parameters (c and ϕ)	Clause 633	App 6/1	-				
				(vi) effective angle of internal friction (ϕ') and effective cohesion (c')	Clause 636	App 6/1	-				
				(vii) permeability	Clause 640	App 6/1	-				
				(viii) mc	BS 1377 : Part 2	App 6/1	App 6/1				
				(ix) MCV	Clause 632	App 6/1	App 6/1				
	(x) slope stability test (where required in App 6/6)	Clause 610	App 6/6								

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class	
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:			6	Q
6	Well graded uniformly graded or coarse granular material	Overlying fill for corrugated steel buried structures	As Class 1A, 1B or 1C granular fill materials, but not to include argillaceous rock, slag or PFA in any proportions. Recycled aggregate except recycled asphalt	As for Class 1A, 1B or 1C with the addition of the following:		Lower	Upper	6	Q	
				(i) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	300 mg/l as SO ₄			
S E L E C T E D				(ii) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos. 2 and 4	-	0.06% as SO ₄			
				(iii) chloride ion content	BS EN 1744-1	-	0.025%			
				(iv) pH value	BS 1377 : Part 3	6	9			
				(v) sulfide and hydrogen sulfide	Standard textbook of qualitative inorganic analysis	-	Rapid blackening of lead acetate paper			
				(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2			
G R A N U L A R	Selected granular material	For stabilisation with lime and cement to form capping (Class 9F)	Any material, or combination of materials, other than unburnt colliery spoil and argillaceous rock. (Properties (i), (ii) and (iii) in next column, shall not apply to chalk.)		BS EN 933-2 (Off-site)	Tab 6/5	Tab 6/5	Not applicable	6	
				(ii) mc	BS 1377 : Part 2	App 6/1	-			
				(iii) liquid limit	BS 1377 : Part 2	-	45			
				(iv) plasticity index	BS 1377 : Part 2	-	20			
				(v) organic matter	BS 1377 : Part 3	-	App 6/1			
F I L L				(vi) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	3000 mg/l as SO ₄			
				(vii) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos. 2 and 4	-	0.6% as SO ₄			
				(viii) total potential sulfate (TPS) content	TRL Report 447, Test No. 4	-	1.2% as SO ₄			
				(ix) IDD of chalk	Clause 634	-	App 6/1			

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:			
						Lower	Upper		
6	Selected well graded granular material	Filter layer below subbase	Crushed rock or sand	(i) grading	BS 1377 : Part 2 (On-site)	Tab 6/2	Tab 6/2	-	S
					BS EN 933-2 (Off-site)	Tab 6/5	Tab 6/5		
				(ii) plasticity index	BS 1377 : Part 2	-	Non-plastic		
S E L E C T E D G R A N U L A R F I L L									

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)					Compaction Requirements in Clause 612	Class	
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:					
						Lower	Upper				
S F E I L L E L C T E E D C O H E E S I V E	Selected cohesive material	Fill to structures	Any material or combination of materials, other than argillaceous rock and materials designated as Class 3 in the Contract. If chalk is used it shall form 100% of constituents. (Properties (i) and (iii) shall not apply to chalk.) (Properties (vii) and (viii) may be increased to 54% and 31% respectively for Lias Clay only and subject to the requirements of Appendix 6/6)	(i) grading	BS 1377 : Part 2	Tab 6/2	Tab 6/2	End product: 100% of maximum dry density of BS 1377 : Part 4 (2.5 kg rammer method) or a dry density corresponding to 5% air voids at field moisture content whichever is lower	7	A	
				(ii) mc	BS 1377 : Part 2	App 6/1	App 6/1				
				(iii) MCV	Clause 632	App 6/1	App 6/1				
				(iv) undrained shear parameters (c and ϕ)	Clause 633	App 6/1	App 6/1				
				(v) effective angle of internal friction (ϕ) and effective cohesion (c')	Clause 636	App 6/1	App 6/1				
				(vi) IDD of chalk	Clause 634	App 6/1	App 6/1				
				(vii) liquid limit	BS 1377 : Part 2	-	45				
				(viii) plasticity index	BS 1377 : Part 2	-	25				

TABLE 6/1: Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:			
						Lower	Upper		
S F E I L L E L C T E D C O H E S I V E	Selected conditioned pulverised fuel ash cohesive material	Fill to structures and to reinforced soil	Conditioned material direct from power station dust collection system and to which a controlled quantity of water has been added	(i) mc	BS 1377 : Part 2	To enable compaction to Clause 612	End product 95% of maximum dry density of BS 1377 : Part 4 (2.5 kg rammer method)	7	B
				(ii) bulk density	BS 1377 : Part 9	App 6/1	App 6/1		
				(iii) undrained shear parameters (c and ϕ)	Clause 633	App 6/1	-		
				(iv) effective angle of internal friction (ϕ') and effective cohesion (c')	Clause 636	App 6/1	-		
				(v) coefficient of friction and adhesion (fill/elements)	Clause 639	App 6/1	-		
				(vi) permeability	Clause 640	App 6/1	-		
				(vii) slope stability test (where required in App 6/6)	Clause 610	App 6/6			

TABLE 6/1: (05/04) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class	
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:				
						Lower	Upper			
S E L E C T E D C O H E S I V E F I L L	Selected wet cohesive material	Fill to reinforced soil	Any material, or combination of materials, other than unburnt colliery spoil, argillaceous rock and chalk. (Properties (viii), (ix), (x), (xi) and (xii) in next column only apply when metallic reinforcing elements, facing units or fastenings are used)	(i) grading	BS 1377 : Part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 1	7	C
				(ii) mc	BS 1377 : Part 2	App 6/1	App 6/1			
				(iii) MCV	Clause 632	App 6/1	App 6/1			
				(iv) effective angle of internal friction (ϕ) and effective cohesion (c)	Clause 636	App 6/1	-			
				(v) coefficient of friction and adhesion (fill/elements)	Clause 639	App 6/1	-			
				(vi) liquid limit	BS 1377 : Part 2	-	45			
				(vii) plasticity index	BS 1377 : Part 2	-	25			
				(viii) pH value	BS 1377 : Part 3	Tab 6/3	Tab 6/3			
				(ix) chloride ion content	BS EN 1744-1	-	Tab 6/3			
				(x) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	Tab 6/3			
				(xi) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos. 2 and 4	-	Tab 6/3			
				(xii) resistivity	Clause 637	Tab 6/3	-			
				(xiii) redox potential	Clause 638	Tab 6/3	-			

TABLE 6/1: (05/04) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:			
						Lower	Upper		
S E L E C T E D C O H E S I V E F I L L	Selected stony cohesive material	Fill to reinforced soil	Any material, or combination of materials, other than unburnt colliery spoil, argillaceous rock and chalk. (Properties (vi), (vii), (viii), (ix), (x), (xi) and (xii) in next column only apply when metallic reinforcing elements, facing units or fastenings are used)	(i) grading	BS 1377 : Part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 2	7
				(ii) mc	BS 1377 : Part 2	App 6/1	App 6/1		
				(iii) MCV	Clause 632	App 6/1	App 6/1		
				(iv) effective angle of internal friction (ϕ') and effective cohesion (c')	Clause 636	App 6/1	-		
				(v) coefficient of friction and adhesion (fill/elements)	Clause 639	App 6/1	-		
				(vi) liquid limit	BS 1377 : Part 2	-	45		
				(vii) plasticity index	BS 1377 : Part 2	-	25		
				(viii) pH value	BS 1377 : Part 3	Tab 6/3	Tab 6/3		
				(ix) chloride ion content	BS EN 1744-1	-	Tab 6/3		
				(x) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	Tab 6/3		
				(xi) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos. 2 and 4	-	Tab 6/3		
				(xii) resistivity	Clause 637	Tab 6/3	-		
				(xiii) redox potential	Clause 638	Tab 6/3	-		
D									D

TABLE 6/1: (11/03) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)					Compaction Requirements in Clause 612	Class
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:				
						Lower	Upper			
7 S E L E C T E D C O H E S I V E	Selected cohesive material	For stabilisation with lime to form capping (Class 9D)	Any material, or combination of materials, other than unburnt colliery spoil	(i) grading	BS 1377 : Part 2	Tab 6/2	Tab 6/2	Tab 6/2	Not applicable	7 D
				(ii) mc	BS 1377 : Part 2	-	App 6/1			
				(iii) MCV	Clause 632	App 6/1	-			
				(iv) plasticity index	BS 1377 : Part 2	10	-			
				(v) organic matter	BS 1377 : Part 3	-	App 6/1			
				(vi) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	App 6/1			
				(vii) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos. 2 and 4	-	App 6/1			
				(viii) total potential sulfate (TPS) content	TRL Report 447, Test No. 4	-	App 6/1			
7 F I L L	Selected silty cohesive material	For stabilisation with cement to form capping (Class 9B)	Any material, or combination of materials, other than chalk, unburnt colliery spoil and argillaceous rock	(i) grading	BS 1377 : Part 2	Tab 6/2	Tab 6/2	Tab 6/2	Not applicable	7 F
				(ii) uniformity coefficient	See Note 5	5	-			
				(iii) mc	BS 1377 : Part 2	App 6/1	App 6/1			
				(iv) MCV	Clause 632	App 6/1	App 6/1			
				(v) liquid limit	BS 1377 : Part 2	-	45			
				(vi) plasticity index	BS 1377 : Part 2	-	20			
				(vii) organic matter	BS 1377 : Part 3	-	App 6/1			
				(viii) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	App 6/1			
				(ix) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos. 2 and 4	-	App 6/1			
				(x) total potential sulfate (TPS) content	TRL Report 447, Test No. 4	-	App 6/1			

TABLE 6/1: (11/05) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6(f))	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class		
				Property (See exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:					
						Lower	Upper				
7	Selected conditioned pulverised fuel ash cohesive material	For stabilisation with cement to form capping (Class 9C)	Conditioned material direct from power station dust collection system and to which a controlled quantity of water has been added	(i) mc	BS 1377 : Part 2	App 6/1	App 6/1	Not applicable	7	G	-
				(ii) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	3000 mg/l as SO ₄				
				(iii) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos. 2 and 4	-	0.6% as SO ₄				
				(iv) total potential sulfate (TPS) content	TRL Report 447, Test No. 4	-	1.2% as SO ₄				
7	Wet, dry, stony or silty cohesive material and chalk	Overlying fill for corrugated steel buried structures	As Class 2A, 2B, 2C, 2D general cohesive fill material or Class 3 chalk fill material, except that argillaceous rock, slag, PFA or any combination thereof shall not be used	As for Class 2A, 2B, 2C, 2D or 3 with the addition of the following					7	H	-
				(i) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	300 mg/l as SO ₄				
				(ii) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos. 2 and 4	-	0.06% as SO ₄				
				(iii) chloride ion content	BS EN 1744-1	-	0.025%				
				(iv) pH value	BS 1377 : Part 3	6	9				

TABLE 6/1: (11/03) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class	
				Property (See exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:			7	1
						Lower	Upper			
S E L E C T E D C O H E S I V E F I L L	Selected cohesive material	For stabilisation with lime and cement to form capping (Class 9E)	Any material, or combination of materials, other than unburnt colliery spoil	(i) grading	BS 1377 : Part 2	Tab 6/2	Tab 6/2	Not applicable	7	1
				(ii) mc	BS 1377 : Part 2	-	App 6/1			
				(iii) MCV	Clause 632	App 6/1	-			
				(iv) plasticity index	BS 1377 : Part 2	10	-			
				(v) organic matter	BS 1377 : Part 3	-	App 6/1			
				(vi) water soluble (WS) sulfate content	TRL Report 447, Test No. 1	-	App 6/1			
				(vii) oxidisable sulfides (OS) content	TRL Report 447, Tests Nos. 2 and 4	-	App 6/1			
				(viii) total potential sulfate (TPS) content	TRL Report 447, Test No. 4	-	App 6/1			

TABLE 6/1: Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)					Compaction Requirements in Clause 612	Class
				Property (See exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:				
						Lower	Upper			
8	Class 1, Class 2 or Class 3 material	Lower trench fill	Any; except there shall not be any stones or lumps of clay >40 mm nominal diameter. Recycled aggregate	(i) mc	BS 1377 : Part 2	App 6/1	App 6/1	Tab 6/4	8	-
				(ii) MCV	Clause 632	App 6/1	App 6/1			
9	Cement stabilised well graded granular material	Capping	Class 6E with addition of cement according to Clause 614	(i) pulverisation	BS 1924 : Part 2	60%	-	Tab 6/4 Method 6	9	A
				(ii) bearing ratio	BS 1924 : Part 2	App 6/1	-			
				(iii) mc	BS 1924 : Part 2	App 6/1	App 6/1			
9	Cement stabilised silty cohesive material	Capping	Class 7F with addition of cement according to Clause 614	(i) pulverisation	BS 1924 : Part 2	App 6/1	-	Tab 6/4 Method 7	9	B
				(ii) MCV immediately before compaction	Clause 632	App 6/1	12			
				(iii) bearing ratio	BS 1924 : Part 2	App 6/1	-			
				(iv) mc	BS 1924 : Part 2	App 6/1	App 6/1			
9	Cement stabilised conditioned pulverised fuel ash cohesive material	Capping	Class 7G with addition of cement according to Clause 614	(i) pulverisation	BS 1924 : Part 2	60%	-	End product 95% of maximum dry density of BS 1924 : Part 2 (2.5 kg rammer method)	9	C
				(ii) bearing ratio	BS 1924 : Part 2	App 6/1	-			
				(iii) mc	BS 1924 : Part 2	To enable compaction to Clause 612				
9	Lime stabilised cohesive material	Capping	Class 7E with addition of lime according to Clause 615	(i) pulverisation	BS 1924 : Part 2	30%	-	Tab 6/4 Method 7	9	D
				(ii) MCV immediately before compaction	Clause 632	App 6/1	App 6/1			
				(iii) bearing ratio	BS 1924 : Part 2	App 6/1	-			
				(iv) mc	BS 1924 : Part 2	App 6/1	App 6/1			

S T A B I L I S E D

M A T E R I A L S

TABLE 6/1: (11/04) Acceptable Earthworks Materials: Classification and Compaction Requirements (See footnotes) (continued)

Class	General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class			
				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	Acceptable Limits Within:						
						Lower	Upper					
S M T A A T B E I R L I I A S L E S	Lime and cement stabilised cohesive material	Capping	Class 7I with addition of lime and cement according to Clause 643	(i) pulverisation	BS 1924 : Part 2	30%	-	Tab 6/4 Method 7	9	E		
				(ii) MCV immediately before completion	Clause 632	App 6/1	App 6/1					
				(iii) bearing ratio	BS 1924 : Part 2	App 6/1	-					
				(iv) mc	BS 1924 : Part 2	App 6/1	App 6/1					
9	Lime and cement stabilised well graded granular material	Capping	Class 6R with addition of lime and cement according to Clause 643	(i) pulverisation	BS 1924 : Part 2	60%	-	Tab 6/4 Method 6	9	F		
				(ii) bearing ratio	BS 1924 : Part 2	App 6/1	-					
				(iii) mc	BS 1924 : Part 2	App 6/1	App 6/1					

Footnotes to Table 6/1

1. App = Appendix
2. Tab = Table
3. Where in the Acceptable Limits column reference is made to App 6/1, only those properties having limits ascribed to them in Appendix 6/1 shall apply. Where Appendix 6/1 gives limits for other properties not listed in this Table such limits shall also apply.
4. (05/04) Where BS 1377 : Part 2 is specified for mc, this shall mean BS 1377 : Part 2 or BS EN 1097-5 as appropriate.
5. Uniformity coefficient is defined as the ratio of the particle diameters D_{60} to D_{10} on the particle-size distribution curve, where:
 D_{60} = particle diameter at which 60% of the soil by weight is finer
 D_{10} = particle diameter at which 10% of the soil by weight is finer
6. (11/04) The limiting values for Class U1B material are given in Appendix 6/14 and Appendix 6/15.

TABLE 6/2: (05/04) Grading Requirements for Acceptable Earthworks Materials Other Than Classes 6F4, 6F5 and 6S

Class	Size (mm)		Size (mm) BS Series												Size (microns) BS Series				Size (microns)	Class
	500	300	125	90	75	37.5	28	20	14	10	6.3	5	3.35	2	1.18	600	300	150	63	2
1A		100	95-100																<15	1A
1B			100																<15	1B
1C	100		10-95													0-25			<15	1C
2A & 2B			100											80-100				15-100		2A & 2B
2C			100											15-80				15-80		2C
2D			100															80-100	0-20	2D
6A	100									0-100		0-85				0-45			0-5	6A
6B	100		0-10																	6B
6C			100			0-100					0-100			0-35		0-2				6C
6D										100		89-100			30-100	15-80	5-48	0-15 except 0-20 for crushed rock		6D
6E & 6R			100	85-100						25-100						10-100			<15	6E & 6R
6F1					100	75-100				40-95		30-85				10-50			<15	6F1
6F2			100	80-100	65-100	45-100				15-60		10-45				0-25			0-12	6F2
6F3			100	80-100	65-100	45-100				15-60		10-45				0-25			0-12	6F3
6H								100				60-100			15-45	0-25		0-5		6H
6I & 6J			100		85-100				25-100							9-100			<15	6I & 6J
6K								100											0-10	6K
6L										100		89-100			30-100	15-100	5-70	0-15 except 0-20 for crushed rock		6L

TABLE 6/2: (11/05) Grading Requirements for Acceptable Earthworks Materials (continued)

Percentage by Mass Passing the Size Shown																				
Class	Size (mm)		Size(mm) BS Series												Size (microns) BS Series				Size (microns)	Class
	500	300	12.5	90	75	37.5	28	20	14	10	6.3	5	3.35	2	1.18	600	300	150	63	2
6M					100														0-10	
6N & 6P					100														<15	
6S					100									60-100		30-90		4-45	0-16	
7A					100														15-100	
7C			100		85-100									80-100		60-100			15-45	0-20
7D			100		85-100				40-90					15-79		15-75			15-45	0-20
7E					100			95-100											15-100	
7F			100																15-100	
7I					100			95-100											15-100	