

A Summary of Changes to Aggregate Specifications in 2004

Introduction

Because construction industry specifications have been used as a barrier to free trade, the Construction Products Directive (1988) established a procedure for the publication of harmonised (CEN) product standards for related products. The package of harmonised standards for aggregates is now available. All conflicting national standards must be withdrawn in June 2004.

The QPA public position is that a changeover will take place on 1st January 2004, just after the British Standard for concrete (BS 5328) is replaced on 1st December 2003.

Equivalent Standards

Because the new standards contain lots of choice to satisfy differing custom and practice across many countries, BSI are also publishing a series of guidance documents to keep things as close to what we do now as is possible.

Products	British Standard	BS EN	UK Guidance
Aggregates for concrete	BS 882 and BS 1047 (slag)	BS EN 12620	PD 6682-1
Roadstones	BS 63 and BS 1047 (slag)	BS EN 13043	PD 6682-2
Mortars, renders etc.	BS 1199/1200	BS EN 13139	PD 6682-3
Drainage materials etc.	Spec. for Highway Works / BS 882	BS EN 13242	PD 6682-6
Capping and subbase	Specification for Highway Works	BS EN 13285	(being prepared)
Armourstone	-	BS EN 13383	PD 6682-7 (being prepared)
Rail ballast	-	BS EN 13450	PD 6682-8 (being prepared)
Concrete	BS 5328	BS EN 206-1	BS 8500 (complementary standard)

BS 1047, Blast furnace slag is replaced by additional clauses within the principal product standards. Requirements are very similar. There is a new volume stability test for steel slags.

BS 594, Rolled asphalts and BS 4987, Bitumen macadams are both being amended to suit amended test sieves and changes to mixture designations. They will not be replaced in full until 2007, at the earliest. The specification for Highway Works is also being amended to reflect the UK guidance documents for aggregates.

Test methods

A number of old friends – ACV, AIV, Ten Percent Fines– have been lost; replaced by the Los Angeles test. The flakiness index test is also very different. Other important tests such as AAV, PSV and Magnesium Sulfate Soundness are little changed. Use of the BS 812-124, Frost heave test continues - but only within the UK.

Test methods	British Standard	BS EN	UK Guidance
Aggregates	BS 812	BS EN 932 General	PD 6682-9
		BS EN 933 Geometrical	
		BS EN 1097, Mechanical/physica	
		BS EN 1367 Thermal/weathering	
		BS EN 1744 Chemical	
		BS EN 13179 Filler aggregate	
Concrete	BS 1881	BS EN 12350 Fresh concrete	
		BS EN 12390 Hardened concrete	

Product sizes and sieves

Although the method of defining product names has changed – 4/20 not 20-5 – and the sieves used to define the grading envelope may be different, in many cases the change to the actual product are minimal. New sieves are need for grading tests.

Recommended test sieves for use in the UK with BS EN aggregate standards					
80	63	40	31,5	20	16
14	10	8	6,3	4	2,8
2	1	0,500	0,250	0,125	0,063

The 125mm sieve is used to define oversize in coarse capping mixtures (see BS EN 13285)

7,1; 5,6 and 1,4mm sieves are used for some sizes of unbound aggregates (see PD 6682-6)

Factory production control and conformity

The standards require a quality management system with defined test frequencies to demonstrate control and conformity with the standards. Operation of the quality management system is linked to attestation of conformity. For most aggregate products the attestation is at Level 4 with self-assessment and supplier declaration of conformity. For road surface aggregates with a PSV of 58 or above, the attestation is at Level 2+ with third party assessment.

Conformity is declared using the CE mark; a false declaration is a trading standards offence. Because public bodies must use CE marked products where possible, the CE marking system will become widespread.

With compliments, *David Rockliff*

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