Appendix I

List of British Standard Codes of Practice Relating to Civil Engineering Work

CP

3 Code of basic data for the design of buildings.
Chapter V Loading.
„ VII Engineering and utility services.
„ IX Durability.

98 Preservative treatments for constructional timber.

99 Frost precautions for water services.

101 Foundations and substructures for non-industrial buildings of not more than four storeys.

102 Protection of buildings against water from the ground.

111 Structural recommendations for load-bearing walls.

112 The structural use of timber in buildings.

114 Structural use of reinforced concrete in buildings.

115 The structural use of prestressed concrete in buildings.

116 The structural use of precast concrete.

117 Composite construction in structural steel and concrete.

121.101 Brickwork.

121.201 Masonry – walls ashlared with natural stone or with cast stone.

121.202 Masonry – rubble walls.

122 Walls and partitions of blocks and slabs.

123.101 Dense concrete walls.

143 Sheet roof and wall coverings.

144.101 Bitumen felt roof coverings.

144 pt. 2 Mastic asphalt roofing.

145.101 Patent glazing.

231 Painting of buildings.

301 Building drainage.

302.100 Small domestic sewage treatment works.

303 Surface water and subsoil drainage.

310 Water supply.

2001 Site investigations.

2003 Earthworks.

2007 Design and construction of reinforced and prestressed concrete structures for the storage of water and other aqueous liquids.

2010 Pipelines.

Civil Engineering Code of Practice
No. 5 (1950) Drainage (Sewerage).

Appendix II

List of British Standards Relating to Civil Engineering Work

BS	
4	Structural steel sections.
9	Bull-head railway rails.
10	Flanges and bolting for pipes, valves and fittings.
11	Flat-bottom railway rails.
12	Portland cement (ordinary and rapid-hardening).
15	Mild steel for general structural purposes.
18	Methods for tensile testing of metals.
47	Steel fishplates for bull-head and flat-bottom railway rails.
51	Wrought iron for general engineering purposes.
63	Single-sized roadstone and chippings.
64	Steel fishbolts and nuts for railway rails.
65	Glazed vitrified clay drain and sewer pipes.
76	Tars for road purposes.
78	Cast iron spigot and socket pipes (vertically cast) and spigot and socket fittings.
105	Light and heavy bridge-type railway rails.
144	Coal tar creosote for the preservation of timber.
146	Portland blast furnace cement.
153	Steel girder bridges.
217	Red lead for paints and jointing compounds.
221	Special zinc.
239	White pigments for paints.
275	Dimensions of rivets 10 mm to 45 mm ($\frac{3}{8}$ in. to $1\frac{3}{4}$ in.) diameter.
308	Engineering drawing practice.
327	Power-driven derrick cranes.
340	Precast concrete kerbs, channels, edgings and quadrants.
348	Compressed natural rock asphalt.
357	Power-driven travelling jib cranes (rail-mounted low carriage type).
368	Precast concrete flags.
373	Testing small clear specimens of timber.
417	Galvanised mild steel cisterns and covers, tanks and cylinders.
434	Bitumen road emulsion (anionic).
435	Granite and whinstone kerbs, channels, quadrants and setts.
437	Cast iron spigot and socket drain pipes.

BS	
449	The use of structural steel in building (incorporating B.S. Code of Practice CP 113).
459	Doors (various types).
486	Asbestos cement pressure pipes.
497	Cast manhole covers, road gully gratings and frames for drainage purposes.
499	Welding terms and symbols.
500	Steel railway sleepers for flat-bottom rails.
505	Road traffic control (electric) light signals.
534	Steel spigot and socket pipes for water, gas and sewage.
539	Dimensions of drain fittings.
540	Glass (vitreous) enamelled salt-glazed fireclay drain and sewer pipes.
544	Linseed oil putty (for wooden frames).
556	Concrete cylindrical pipes and fittings including manholes, inspection chambers and street gullies.
565	Glossary of terms relating to timber and woodwork.
594	Rolled asphalt (hot process).
598	Sampling and examination of bituminous mixtures for roads and buildings.
599	Pump tests.
616	Methods for sampling coal tar and its products.
638	Arc welding plant and equipment.
639	Covered electrodes for the metal-arc welding of mild steel.
648	Schedule of weights of building materials.
673	Pneumatic tools and accessories.
706	Sandstone kerbs, channels, quadrants and setts.
722	Borehole and well pump tests.
723	Sewage pump tests.
729	Zinc coatings on iron and steel articles.
743	Materials for damp-proof courses.
747	Roofing felts.
750	Underground fire hydrants and dimensions of surface box openings.
751	Steel bearing plates for flat-bottom railway rails.
778	Steel pipes and flanged joints for hydraulic purposes.
781	Wrought iron chain slings and rings.
785	Rolled steel bars and hard drawn steel wire for concrete reinforcement.
802	Tarmacadam with crushed rock or slag aggregate.
812	Methods for sampling and testing of mineral aggregates, sands and fillers.
873	The construction of road traffic signs and internally illuminated bollards.
877	Foamed blast furnace slag for concrete aggregate.
879	Water well casing.
881, 589	Nomenclature of commercial timbers, including sources of supply.
882, 1201	Aggregates from natural sources for concrete (including granolithic).
890	Building limes.
892	Glossary of highway engineering terms.
913	Pressure creosoting of timber.

BS	
915	High alumina cement.
952	Classification of glass for glazing and terminology for work on glass.
986	Concrete railway sleepers.
988	Mastic asphalt for roofing (limestone aggregate).
1047	Air-cooled blast furnace slag coarse aggregate for concrete.
1097	Mastic asphalt for tanking and damp-proof courses (limestone aggregate).
1130	Schedule of cast iron drain fittings, spigot and socket type, for use with drain pipes to B.S. 437.
1136	Mild steel refuse storage containers.
1139	Metal scaffolding.
1142	Fibre building boards.
1143	Salt-glazed ware pipes with chemically resistant properties.
1144	Cold twisted steel bars for concrete reinforcement.
1151	Form of time and wages sheet and pay packet for the building and civil engineering contracting industries.
1161	Aluminium and aluminium alloy sections.
1162	Mastic asphalt for roofing (natural rock asphalt aggregate).
1165	Clinker aggregate for plain and precast concrete.
1178	Milled lead sheet and strip for building purposes.
1180	Concrete bricks and fixing bricks.
1186	Part 1. Quality of timber in joinery. Part 2. Quality of workmanship in joinery.
1191	Gypsum building plasters.
1194	Concrete porous pipes for under-drainage.
1196	Clayware field drain pipes.
1198–1200	Building sands from natural sources.
1202	Wire nails and cut nails for building purposes.
1203	Synthetic resin adhesives (phenolic and aminoplastic) for plywood.
1208	Semi-rotary pumps, hand operated, double acting for water.
1210	Wood screws.
1211	Centrifugally cast (spun) iron pressure pipes for water, gas and sewage.
1217	Cast stone.
1218	Sluice valves for waterworks purposes.
1221	Steel fabric for the reinforcement of concrete.
1230	Gypsum plasterboard.
1236–40	Sills and lintels.
1241	Tarmacadam and tar carpets (gravel aggregate).
1242	Tarmacadam tarpaving for footpaths, playgrounds and similar work.
1243	Metal ties for cavity wall construction.
1245	Metal door frames (steel).
1247	Manhole step irons (malleable cast iron).
1249	Cast iron columns for street lighting.
1282	Classification of wood preservatives and their methods of application.
1305	Batch-type concrete mixers.
1308	Concrete street lighting columns.
1332	Guide to civil land aerodrome lighting.
1333	Acid resisting silicon iron pipes and pipe fittings.
1336	Knotting.
1377	Methods of testing soils for civil engineering purposes.

BS	
1386	Copper tubes to be buried underground.
1387	Steel tubes and tubulars suitable for screwing to B.S. 21 pipe threads.
1410	Mastic asphalt for flooring (natural rock asphalt aggregate).
1418	Mastic asphalt for tanking and damp-proof courses (natural rock asphalt aggregate).
1438	Media for biological percolating filters.
1446	Mastic asphalt (natural rock asphalt aggregate) for roads and footways.
1447	Mastic asphalt (limestone aggregate) for roads and footways.
1455	Plywood manufactured from tropical hardwoods.
1478	Bending dimensions and scheduling of bars for the reinforcement of concrete.
1521	Waterproof building papers.
1553	Graphical symbols for pipes and valves.
1563	Cast-iron sectional tanks (rectangular).
1564	Pressed steel sectional tanks (rectangular).
1569	Copper sheet and strip for roofing and other building purposes.
1573	Road studs and plates (stainless steel).
1579	Connectors for timber.
1621	Bitumen macadam with crushed rock or slag aggregate.
1622	Winter gritters for roads.
1623	Hand-rollers for road and constructional engineering.
1634	Dimensions for stoneware pipes and pipe fittings for chemical purposes.
1639	Methods for bend testing of metals.
1676	Heaters for tar and bitumen (mobile and transportable).
1690	Cold asphalt.
1703	Refuse chutes for multi-storey buildings.
1707	Hot binder distributors for road surface dressing.
1710	Identification of pipelines.
1722	Fences.
1788	Street-lighting lanterns for use with electric lamps.
1840	Steel columns for street lighting.
1853	Tubular fluorescent lamps for general lighting service.
1856	General requirements for the metal-arc welding of mild steel.
1860	Structural timber – measurement of characteristics affecting strength.
1881	Methods of testing concrete.
1924	Methods of test for stabilised soils.
1926	Ready-mixed concrete.
1984	Single-sized gravel aggregates for roads.
2015	Glossary of paint terms.
2017	Copper tubes for general purposes.
2028	Precast concrete blocks.
2035	Cast iron flanged pipes and flanged fittings.
2040	Bitumen macadam with gravel aggregate.
2494	Rubber joint rings for gas mains, water mains and sewers.
2499	Tests to assess the properties of hot applied joint sealing compounds for concrete pavements.
2521–4	Ready-mixed oil-based priming paints.
2525–32	Ready-mixed oil-based undercoating and finishing paints (exterior quality).
2539	Preferred dimensions of reinforced concrete structural members.

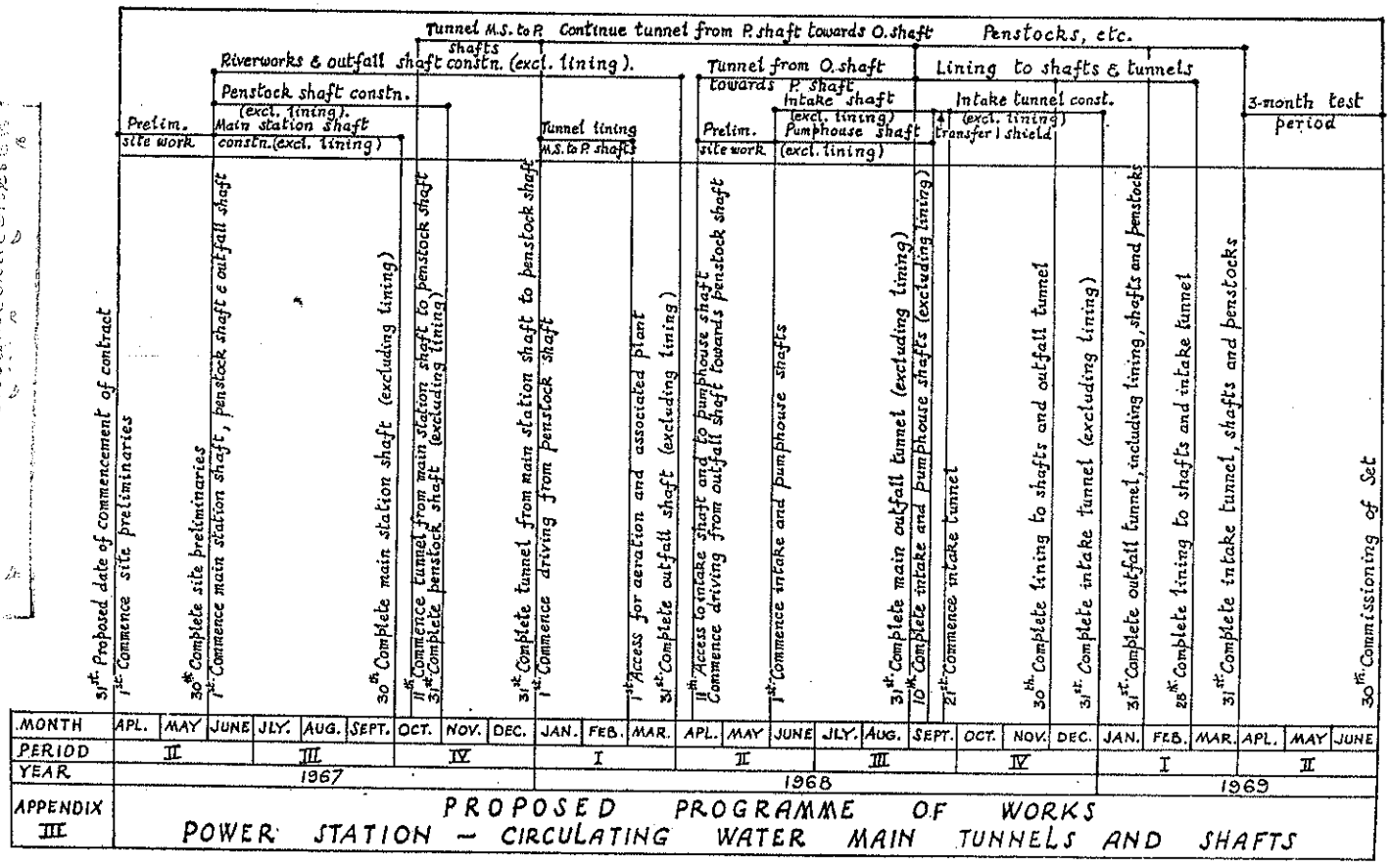
BS	
2542	Recommendations for the use of bitumen emulsion (anionic) for roads.
2569	Sprayed metal coatings.
2573	Permissible stresses in cranes.
2591	Glossary for valves and valve parts (for fluids).
2594	Horizontal mild steel welded storage tanks.
2596	Components of crawler tractors and earth-moving equipment.
2691	Steel wire for prestressed concrete.
2760	Pitch-impregnated fibre drain and sewer pipes.
2762	Notch ductile steel for general structural purposes.
2787	Glossary of terms for concrete and reinforced concrete.
2853	The design and testing of steel overhead runway beams.
2855	Corrugated aluminium sheets for general purposes.
2994	Cold rolled steel sections.
3049	Pedestrian guard rails (metal).
3051	Coal tar oil types of wood preservatives.
3083	Hot-dipped galvanised corrugated steel sheets for general purposes.
3136	Emulsion spraying machines for roads.
3138	Glossary of terms in work study.
3139	High strength friction grip bolts for structural engineering.
3148	Tests for water for making concrete.
3178	Playground equipment for parks.
3224	Lighting fittings for civil land aerodromes.
3235	Test methods for bitumen.
3247	Salt for spreading on highways for winter maintenance.
3251	Hydrant indicator plates.
3262	Road marking materials.
3294	The use of high strength friction grip bolts in structural steelwork.
3327	Stationery for quantity surveying.
3373	Wrought magnesium alloys for general engineering purposes – bars and sections.
3428	Troughed aluminium building sheet.
3429	Sizes of drawing sheets.
3461	Surface boxes for waterworks purposes.
3505	Unplasticised PVC pipe (type 1420) for cold water supply.
3572	Access fittings for chimneys and other high structures in concrete or brickwork.
3656	Asbestos-cement pipes and fittings for sewerage and drainage.
3680	Methods of measurement of liquid flow in open channels.
3681	Methods for the sampling and testing of lightweight aggregates for concrete.
3690	Bitumens for road purposes.
3698	Calcium plumbate priming paints.
3699	Calcium plumbate for paints.
3706	Mild steel for general engineering purposes.
3717	Asbestos cement decking.
3767	Schedule of sodium discharge lamps.
3797	Lightweight aggregates for concrete.
3798	Coping units.
3809	Wood wool permanent formwork and infill units for reinforced concrete floor and roof slabs.

APPENDIX TWO

BS	
3829	Principal external dimensions of centrifugal pumps.
3882	Recommendations and classification for topsoil.
3892	Pulverised-fuel ash for use in concrete.
3921	Bricks and blocks of fired brick earth, clay or shale.
3969	Recommendations for turf for general landscape purposes.
3981	Iron oxide pigments for paints.
3989	Aluminium street lighting columns.
3998	Recommendations for tree work.
4011	Recommendations for co-ordination of dimensions in building. Basic sizes for building components and assemblies.
4016	Building papers (breather type).
4027	Sulphate-resisting Portland cement.
4043	Recommendations for transplanting semi-mature trees.
4047	Grading rules for sawn home-grown hardwood.

Appendix III

Typical Programme of Works covering Tunnels and Shafts to a Circulating Water System to a Power Station



Appendix IV

Metric Conversion Table (analogue)

LINEAR	*ft*	*in.*	*m*	*mm*
		$\frac{1}{8}$		3
		$\frac{1}{2}$		10 (15)
		$\frac{3}{4}$		20
		1		25
		$1\frac{1}{4}$		30
		$1\frac{1}{2}$		40
		2		50
		3		75
		4		100
		$4\frac{1}{2}$		115
		6		150
		7		175
		8		200
		9		225
		10		250
	1	0		300
	1	2		350
	1	6		450
	2	0		600
	2	6		750
	3	0	1	
	4	0	1·25	
	5	0	1·5	
	6	0	2	
	10	0	3	
	11	0	3·3	
	15	0	4·5	
	20	0	6	
	30	0	9	
	40	0	12	
	100	0	30	

SQUARE	ft^2	$in.^2$	m^2
		36	0·025
		48	0·03
	1	0	0·1
	3	0	0·3
	4	0	0·4
	10	0	1
	12	0	1·25
		3	2000 mm²
		6	4000 mm²

	yd^2	m^2
	1	1
	100	80
	1000	840

CUBE	ft^3	m^3
	1	0·03
	6	0·15
	10	0·25
	20	0·5
	100	2·5

WEIGHT	*lb*	*kg*
	1	0·45
	10	4·5
	100	45

	cwt	*kg*
	1	50

	ton	*kg*
	1	1000

PRESSURE	LIQUID	*gal*	*litre*
1000 lbf/in² = 7 MN/m²		1	4·5
10 tonf/in² = 155 MN/m²		10	45

NOTE. MN = meganewton.

Index

To the Reader

Author and publisher would welcome suggestions towards future editions of this book, or the pointing out of any misprint or obscurity. Please write to the Technical Editor, Macmillan and Co. Ltd., Little Essex Street, W.C.2