

INTERIM ADVICE NOTE 31/00

MCHW VOL 1 APPENDIX F

BS 8666: 2000 SCHEDULING, DIMENSIONING, BENDING AND CUTTING OF STEEL REINFORCEMENT FOR CONCRETE

Important changes have taken place in the area of the scheduling of reinforcement. A new British Standard for Specification for scheduling, dimensioning, bending and cutting of steel reinforcement for concrete, BS 8666:2000, came into effect on 15 April 2000. This replaces BS 4466:1989, which has been withdrawn. There are significant differences between the two standards, which can be summarised as follows:

- **Notation** - changes in the designation of the type and grade of steel reinforcement
- **Shape codes** - re-designated and reduced in number, from 27 to 16
- **Minimum bending former diameters** - generally reduced in size

Despite the issue of this new standard it is clear that BS 8666 and BS 4466 will run in parallel over a period of time and reinforcement fabricators are expecting to process orders according to both. It is however desirable to move to the new standard as soon as possible in line with the rest of the construction industry.

The UK Certification Authority for Reinforcing Steel CARES, which operates a product certification scheme for steel reinforcement, have indicated that they will administer the scheme for the supply of material to either standard in the interim transitional period.

Schemes in the design/pre-tender stage should wherever possible adopt the requirements of BS 8666.

Appendix 1 provided courtesy of CARES indicates the major areas of difference between BS 4466 and BS 8666. The next update of MCHW Vol. 1 specification for Highway Works will replace the reference in Appendix F from BS 4466 to BS 8666.

BS 8666 / BS 4466 COMPARISON OF STANDARDS

Appendix 1

Introduction

Scheduling, dimensioning, bending and cutting of steel reinforcement for concrete

BS 4466 has replaced by BS 8666 with effect from 15th April 2000. This report summarises the key differences between the two standards.

Report

The key changes are as follows:

1. Notation
2. Shape codes
3. Minimum bending former diameters
4. Routine inspection

1. Notation



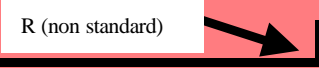






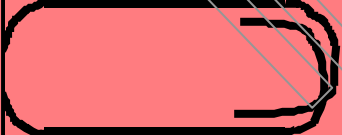


BS 8666	BS 4466	Grade
R	R	250 conforming to BS 4449
F	D	460 deformed type 1 conforming to BS 4482 (for fabric conforming to BS 4483)
D	T	460 deformed type 2 conforming to BS 4482 or grade 460A conforming to BS 4449 (for fabric conforming to BS 4483)
W	W	460 plain round conforming to BS 4482 (for fabric conforming to BS 4483)
T	T	460A or 460B deformed type 2 conforming to BS 4449
B	T	460B deformed type 2 conforming to BS 4449 (for bar or fabric conforming to BS 4483)
S	S	a specified grade and type of stainless steel conforming to BS 6744
X	X	reinforcement of a type not included in the above list having material properties that are defined in the design or contract specification


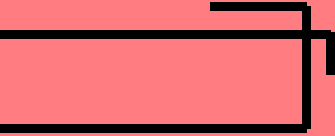

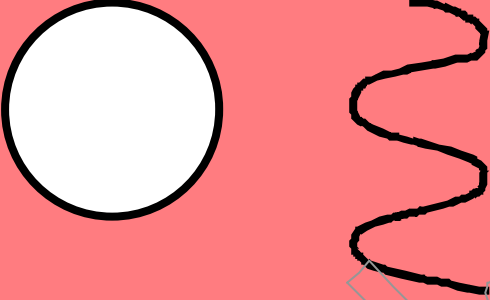
BS 8666 / BS 4466 COMPARISON OF STANDARDS

2. Standard shapes and shape codes

3.

The number of standard shape codes has been reduced from 27 to 16. Shape codes 32, 33, 34, 35, 42, 45, 54, 77, 78, 79 and 85 of BS 4466 do not appear in BS 8666.

Shape	Shape code	
	BS 8666	BS 4466
	00	20
	11	37
	12	51
	13	39
	15	62
	21	38
	25	49
	26	41
	31	52
	33	82
	41	55
	44	53

	46	43
	51	61
	67 (Radius bar)	65
	77 (Helical)	87
<p>All other shapes in BS 8666 are shape code 99.</p>	<p>Shape code 99 shall have a maximum of four bends</p>	

3. Minimum former diameters

Grade R – no change between BS 4466 and BS 8666.

Grades T, B and S

Nominal bar diameter	Minimum former diameter / mm			
	BS 8666		BS 4466	
6	24	4d	36	6d
8	32	4d	48	6d
10	40	4d	60	6d
12	48	4d	72	6d
16	64	4d	96	6d
20	140	7d	120	6d
25	175	7d	200	8d
32	224	7d	256	8d
40	280	7d	320	8d

**BS 8666 / BS 4466
COMPARISON OF STANDARDS**

Fabric – Grades F, D and W

Nominal size of wire /mm	BS 8666 /mm	BS4466 /mm
5	20	30
6	24	36
7	28	42
8	32	48
9	36	54
10	40	60
12	48	72

4. Routine inspection

The inspection frequency in BS 8666 is based on the average weekly output over the preceding twelve week period instead of the preceding full working week as specified in BS 4466.

<u>Average output /tonnes</u>	<u>Number of specimens per day</u>	
	<u>BS 8666</u>	<u>BS 4466</u>
Less than 75	At least 20	At least 10
75 to 150	At least 30	At least 20
Greater than 150	At least 40	At least 40

The same parameters are to be checked and recorded, but the method of checking the diameter of the bending former used when inspecting bent items has changed:

<u>BS 8666</u>	<u>BS 4466</u>
The diameter of former used shall be checked and recorded.	The diameter of former used (by checking the bar).