Bar bending schedule

Reinforcement schedule to BS 8666:2020 · lengths from shape codes · masses by size

Reference	NAE-BBS-001 · version 1.0
Standards	BS 8666:2020 Scheduling, dimensioning, cutting and bending of steel reinforcement for concrete · BS 4449 bar sizes
National Annex	Not applicable
Issued	29 October 2026

What it does

A clean bar bending schedule in the BS 8666:2020 format with the NA Engineering header: the cutting length of each bar is calculated from its shape code with the standard scheduling radius, rounded up to 25 mm, and the masses are totalled by bar size.

How to use

1. Open the Schedule sheet and fill in the project fields.
2. One line per bar mark: member, mark, type, size, numbers, shape code and the dimensions A to E (E / R column holds R for shape codes 12 and the like).
3. Length, total number and mass are calculated; the Check column flags anything to look at. Type a bar mark above the drawing to see its shape.

Scope and limitations

Shape codes of BS 8666:2020 Table 5 defined by dimensions A to E; shapes 47 and 64 are not included. The standard scheduling radius r of Table 2 is used; enter a non-standard radius as R (shape 12). Shape 77 uses the pitch formula when the pitch B exceeds A/5. Shape 99 needs a dimensioned sketch and its own length: the row is flagged and left out of the totals. Every dimension a shape needs must be given; dimensions should be to 5 mm (flagged otherwise). Shapes 48, 51, 52 and 63 take D = C. Shapes 14, 15 and 25 (inclined legs) are not included: use shape 99. Mark free dimensions in parentheses on the issued schedule (clause 8.1.3). Minimum leg lengths, end projections, bend angles and tolerances of BS 8666 are the scheduler's responsibility. Masses use the nominal mass per metre of BS 4449 Table 7. Lengths over 12 m are flagged as beyond standard stock length. The sketch shows shapes 00, 01, 11, 12, 13, 21 and 51; other shapes are listed only.

Further reading and independent cross-check

- BS 8666:2020, Tables 2 and 5.
- The Concrete Centre / IStructE, Standard method of detailing structural concrete (2006, with later amendments).

NA Engineering is not affiliated with The Concrete Centre or CIRIA; their publications are referenced for information only.

About NA Engineering

NA Engineering is a structural engineering consultancy delivering structural design, reinforced concrete modelling and detailing, and steel detailing for residential, commercial, infrastructure, energy and refurbishment projects. We share tools like this one because good engineering should be transparent: every formula here is visible and referenced. If you need a design, a check or a full detailing package, talk to us.

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Disclaimer

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Revision history

v1.0	29 Oct 2026 · First issue

Project		Drawing no.	
Site / address		Prepared by	
Contract no.		Checked by	
Revision			
Date			
Sheet			

Summary by bar size

Size (mm)	6	8	10	12	16	20	25	32	40	50
Total length (m)	0.0	0.0	18.3	31.0	79.8	23.6	30.0	0.0	0.0	0.0
Mass (kg)	0.0	0.0	11.3	27.5	126.1	58.3	115.5	0.0	0.0	0.0

Total mass

338.7 kg

Member	Bar mark	Type	Size	No. of mbrs	No. in each	Total no.	Length (mm)	Shape code	A	B	C	D	E / R	Mass (kg)	Check
Base B1	01	H	16	1	14	14	**2950**	00	2950					**65.3**	OK
Base B1	02	H	16	1	14	14	**2750**	00	2750					**60.8**	OK
Column C1	03	H	20	1	8	8	**2950**	11	2400	(600)				**58.3**	OK
Column C1	04	H	10	1	12	12	**1525**	51	340	340	(130)	(130)		**11.3**	OK
Beam BM1	05	H	12	2	20	40	**775**	21	250	300	(250)			**27.5**	OK
Beam BM1	06	H	25	2	4	8	**3750**	13	3000	300	(600)			**115.5**	OK

Member	Bar mark	Type	Size	No. of mbrs	No. in each	Total no.	Length (mm)	Shape code	A	B	C	D	E / R	Mass (kg)	Check

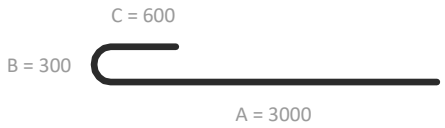
Lengths to BS 8666:2020 Table 5 with r from Table 2, rounded up to 25 mm; masses from BS 4449 Table 7. Type: H = B500A (≤ 12 mm), B500B or B500C; B = B500B or B500C; C = B500C. Shape 77: A diameter, B pitch, C

Member	Bar mark	Type	Size	No. of mbrs	No. in each	Total no.	Length (mm)	Shape code	A	B	C	D	E / R	Mass (kg)	Check

Shape preview

Bar mark to show **06** **Shape 13 · H25 · cutting length 3750 mm**

Shape of the bar mark picked above, to scale (straight legs; bend radii not drawn; link hooks at 45°)



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For reference: the standard shapes redrawn by NA Engineering, with the length measured along the centre line. Dimensions in parentheses are the free dimensions that take the permitted deviations; r is the standard scheduling radius of Table 2, d the bar size. Shapes marked "schedule here as 99" are not calculated by this schedule. BS 8666:2020 governs; check the limits on minimum legs, end projections and bend angles in the standard.

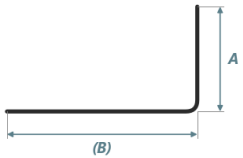
00

L = A

01

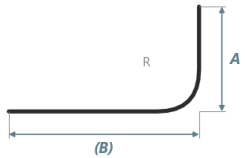
L = A

11



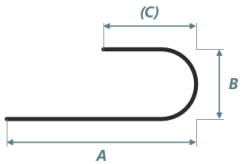
L = A + (B) − 0.5r − d

12



L = A + (B) − 0.43R − 1.2d

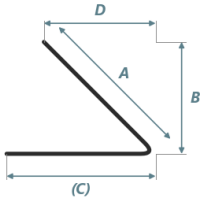
13



L = A + 0.57B + (C) − 1.6d

14

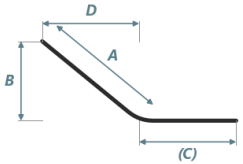
schedule here as 99



L = A + (C)

15

schedule here as 99

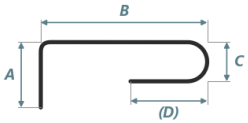


L = A + (C)

21

L = A + B + (C) − r − 2d

22

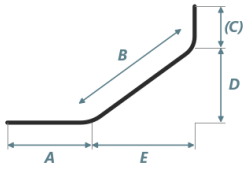


L = A + B + 0.57C + (D) − 0.5r − 2.6d

23

L = A + B + (C) − r − 2d

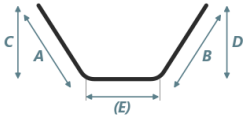
24



L = A + B + (C)

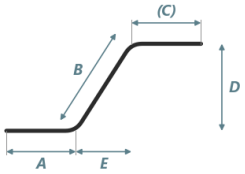
25

schedule here as 99



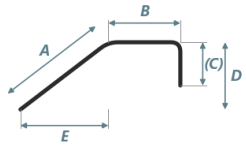
L = A + B + (E)

26



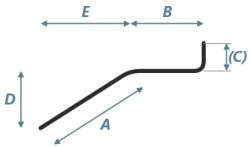
L = A + B + (C)

27



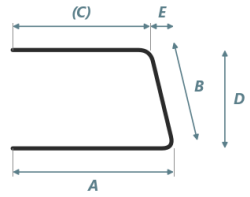
L = A + B + (C) − 0.5r − d

28



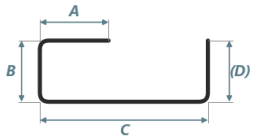
L = A + B + (C) − 0.5r − d

29



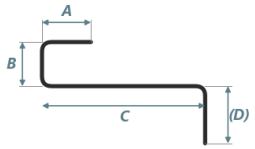
L = A + B + (C)

31



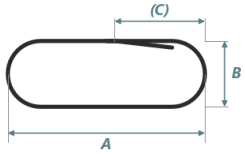
L = A + B + C + (D) − 1.5r − 3d

32



L = A + B + C + (D) − 1.5r − 3d

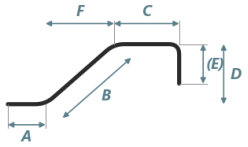
33



L = 2A + 1.7B + 2(C) − 4d

34

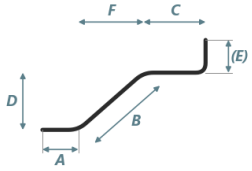
schedule here as 99



L = A + B + C + (E) − 0.5r − d

35

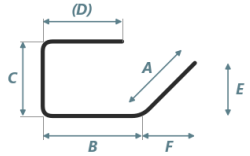
schedule here as 99



L = A + B + C + (E) − 0.5r − d

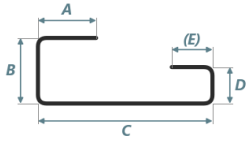
36

schedule here as 99



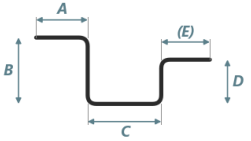
L = A + B + C + (D) − r − 2d

41



L = A + B + C + D + (E) − 2r − 4d

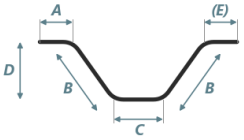
44



L = A + B + C + D + (E) − 2r − 4d

46

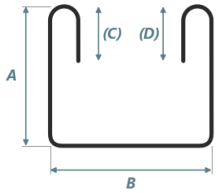
schedule here as 99



L = A + 2B + C + (E)

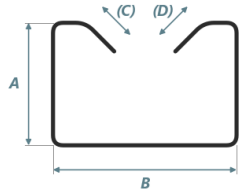
47

schedule here as 99



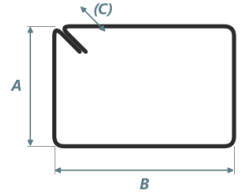
L = 2A + B + 2(C) + 2q − 3r − 6d

48



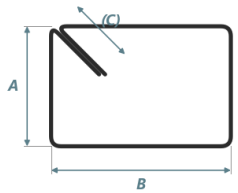
L = 2A + B + 2(C) − r − 2d

51



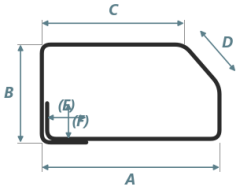
L = 2[A + B + (C)] − 2.5r − 5d

52



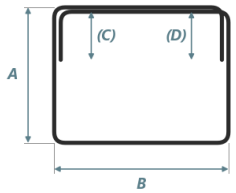
L = 2(A + B) + 2(C) − 1.5r − 3d

56



L = A + B + C + D + 2(E) − 1.5r − 3d (E = F)

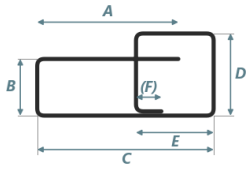
63



L = 2A + 3B + 2(C) − 3r − 6d

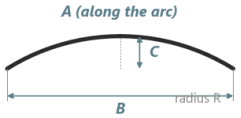
64

schedule here as 99



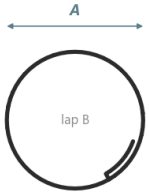
L = A + B + C + 2D + E + (F) − 3r − 6d

67



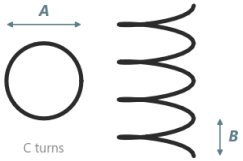
L = A

75



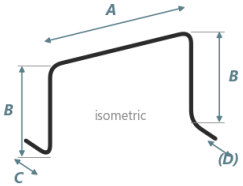
L = π(A − d) + B + 25

77



L = Cπ(A − d) (B ≤ A/5)

98



L = A + 2B + C + (D) − 2r − 4d

99

Any other shape

dimensioned sketch over columns A to R

L = from the sketch