Specification (Measurement)

Transport and Main Roads Specifications
MRS71 Reinforcing Steel

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Queensland Government

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1 Introduction

This Specification applies to the supply, fabrication and placing of reinforcing bar and welded reinforcing mesh used in concrete road and bridge structures, concrete pavements and incidental concrete construction.

This Specification shall be read in conjunction with MRS01 *Introduction to Specifications*, MRS50 *Specific Quality System Requirements* and other Specifications as appropriate.

This Specification forms part of the Transport and Main Roads Specifications Manual.

2 Measurement of work

2.1 Standard Work Items

This Specification contains no Standard Work Items. Subject to the provisions of Clause 2.2, supply and installation of steel reinforcing shall be measured by Standard Work Items associated with particular elements of work contained in the following Specifications:

a) MRS03 *Drainage Structures, Retaining Structures and Embankment Slope Protections*

b) MRS40 *Concrete Pavement Base*

c) MRS62 *Bridge Substructure*

d) MRS63 *Cast-In-Place Piles*

e) MRS77 *Bridge Deck.*

2.2 Reinforcing steel not always measured separately

The supply and installation of steel reinforcing bars shall be measured under a separate Standard Work Item only when incorporated in the following elements of work:

a) bored and cast-in-place piles

b) bridge abutment and pier footings

c) bridge abutments

d) bridge piers

e) bridge deck

f) bridge cross girders

g) insitu parapets, kerbs and medians

h) bridge relieving slabs

i) retaining walls, and

j) concrete pavements.

The supply and installation of welded reinforcing mesh shall be measured under a separate Standard Work Item only when incorporated in concrete pavements.

In all structures, slabs, footings and precast elements other than those listed above, payment for steel reinforcing bar and welded reinforcing mesh shall be deemed to be included in the rate or lump sum amount for the relevant Standard Work Item(s) for that structure, slab, footing or precast element.

2.3 Calculation of quantities

The quantity of steel reinforcing bar represented by any Standard Work Item included in the Specifications referred to in Clause 2.1, shall be the mass calculated from the actual lengths shown in the Drawings and the unit mass of each bar size as shown in Table 2.3(a). Where a continuous bar or welded or other type of splice is used instead of a lapped splice, the mass shall be calculated as for a lapped splice.

Table 2.3(a) – Unit mass of steel reinforcing steel

Bar size (mm)	Unit mass (kg/m)
10	0.617
12	0.888
16	1.58
20	2.47
24	3.55
28	4.83
32	6.31
36	7.99
40	9.86
50	15.4

The quantity of welded reinforcing mesh represented by any Standard Work Item included in Specification MRS40 *Concrete Pavement Base* shall be the mass calculated from the actual areas of mesh shown in the Drawings and the unit mass of each size of mesh as shown in Table 2.3(b). No allowance shall be made for laps.

When calculating quantities, no allowance shall be made for any additional steel reinforcing used:

a) in cutting and/or bending processes, or

b) by the Contractor to improve the rigidity of a reinforcing cage or to suit the proposed installation procedure.

Table 2.3(b) – Unit mass of welded reinforcing mesh

Mesh Size	Mass (kg/m^2)
SL81	7.1
SL62	2.2
SL72	2.8
SL82	3.6
SL92	4.6
SL102	5.6
RL818	5.3
RL1018	7.3
RL1218	10.5

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