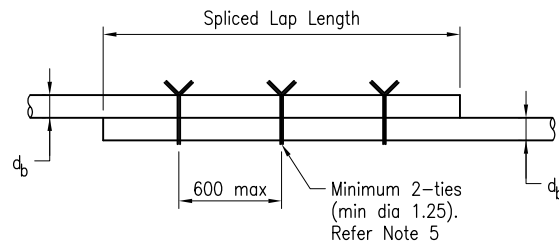


Minimum Lapped Splice Lengths for Reinforcing Bars ★

Exposure Classification	f'c	Deformed Bar Diameter								
		10	12	16	20	24	28	32	36	40
B1	32 MPa	450	550	800	1000	1250	1500	1800	2100	2400
B2	40 MPa	400	500	700	900	1100	1350	1600	1850	2150
	50 MPa	400	500	650	800	1000	1200	1450	1700	1950
C, C1 and C2	50 MPa	400	500	650	800	1000	1200	1450	1700	1950

★ For top/horizontal bars with more than 300 of concrete below the above bars, the lap lengths in this table shall be multiplied by 1.3.  
Where laps are required but not shown on the drawings, they should be staggered and positioned away from points of maximum stress.  
Where more than 50% of reinforcement is spliced at points of maximum stress, lap lengths shown in the table above are to be multiplied by 1.3.



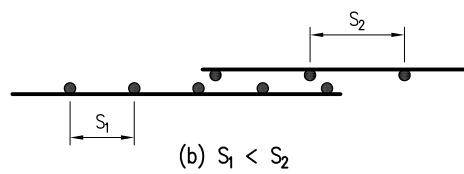
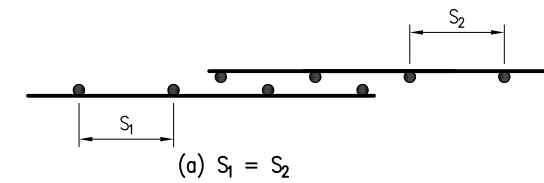
LAPPED SPLICE FOR REINFORCING BARS

Typical Lapped Splice Details for Helical Reinforcement in Columns

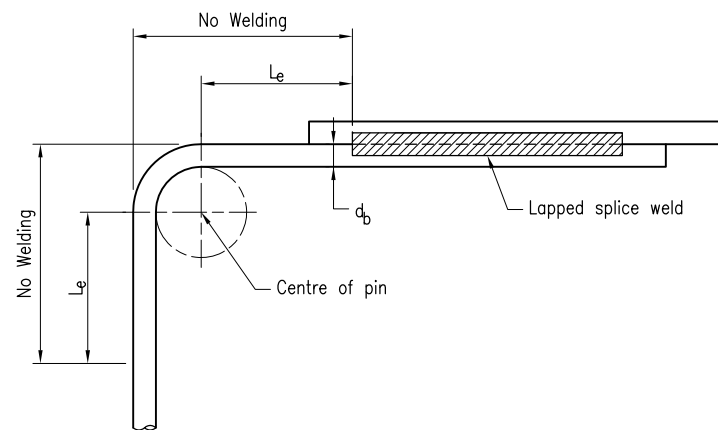
Helical reinforcement shall be spliced within its length by lapping the helix by one turn and bending the helix ends into the column core for an extension 'e'.

Extension 'e'

Bar Diameter	10	12	16
e	250	300	400



LAPPED SPLICES FOR WELDED MESH



Dimension L\_e ▲

d_b	10	12	16	20	24	28	32	36	40
L_e	30	40	50	60	75	85	100	110	120

▲ Refer Note 6

NO WELDING REGION FOR LAPPED SPLICE

NOTES:

- SCOPE: This drawing is to detail lapped splices for reinforcing bars and welded mesh, and general reinforcing steel information. This Standard Drawing was developed in accordance with AS 5100.5. Lapped splice details shown do not apply to the following:
  - Structural elements built with slip form construction
  - Epoxy coated or galvanised bars, either before or after bending
  - Bends that are subsequently straightened or rebent
  - Bundled bars
  - Stainless steel reinforcement.
 Lapped splices for any of the above shall be project specific design in accordance with AS 5100.5. Refer Standard Drawing 1043 for standard bar shapes and bending details.
- REINFORCING STEEL shall be in accordance with MRTS71 and AS/NZS 4671. Deformed bars Grade D500N. Round bars Grade R250N. Deformed wire Grade D500L for welded mesh only. All reinforcing steel shall be ACRS certified.
- Where lapped splices are required but not shown on the drawings, they shall be positioned away from points of maximum stress.
- If bars of different diameters are lapped, the lap length shall be determined using the smaller diameter.
- All lapped bars to be tied with 1.25 minimum diameter annealed wire at 600 maximum centres.
- WELDING of reinforcement shall only be used where prior approval of the Project Administrator has been obtained and shall be carried out in accordance with MRTS71. Welding symbols to AS 1101.3. Welding of bar splices to AS/NZS 1554.3. All welds, except location tack welds, shall be SP category. Tack welding for location purposes to AS/NZS 1554.3. Welding shall not be carried out within L\_e from any bent portion of the bar. Welding consumables shall be controlled hydrogen type: G49X to AS/NZS 14341-B or T49X to AS/NZS ISO 17632-B.
- DIMENSIONS are in millimetres.

REFERENCED DOCUMENTS:

- Departmental Standard Drawings:  
1043 Reinforcing Steel – Standard Bar Shapes  
Departmental Specifications:  
MRTS71 Reinforcing Steel

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REINFORCING STEEL			
A3	Standard Drawing No		1044
Not to Scale	Date		
H	J	K	L