

ALL DIMENSIONS ARE FROM OUTSIDE TO OUTSIDE OF BARS EXCEPT RADII WHICH ARE TO INSIDE OF BAR. 'd' DENOTES BAR DIAMETER.

BAR SIZE	MINIMUM FORMER PIN DIAMETER (mm)		
	MAIN STEEL GRADE 300/500	STIRRUPS AND TIES GRADE 300/500	
		PLAIN ROUND	DEFORMED
6	30	12	24
10	50	20	40
12	60	24	48
16	80	32	64
20	100	40	80
24	144	72	144
32	192	96	192
40	240	120	240

TABLE 8.1 & 8.2 NZS3101:2006

NOTE: FOR STIRRUPS AND TIES, WHERE THE MAIN BAR SIZE IS GREATER THAN THE MINIMUM FORMER PIN DIAMETER, THE MAIN BAR SIZE WILL GOVERN.

8. STANDARD BAR CRANK.



WHEN MAIN BARS ARE OFFSET, i.e. FOR CRANKED LAPS, THE SLOPE OF THE INCLINE PORTION OF THE BAR SHALL NOT EXCEED 1 IN 6.

9. REINFORCING SPIRAL FOR CONCRETE POLES MUST HAVE ONE FULL TURN PLUS WELDED TERMINATOR AT EACH END AND WHEN SPLICED.

**STRUCTURAL STEEL**

1. STEEL MEMBERS SHALL BE THE FOLLOWING GRADES U.N.O

MEMBER	GRADE
UB'S, UC'S, PFC'S & ANGLES (125 X 125 OR LARGER)	300
RHS, SHS, CHS	350

2. ALL COLD FORMED SECTIONS INCLUDING COLD ROLLED PURLINS TO CONFORM TO AS 1538 AND SHALL HAVE A MINIMUM YIELD STRESS OF 450 MPa U.N.O

3. THE ENDS OF ALL HOLLOW SECTIONS SHALL BE SEALED WITH 5mm MIN. STEEL PLATE, STEEL WELDED U.N.O.

4. ALL PLATES & CLEATS SHALL BE GRADE 250 U.N.O

5. ALL HOLDING DOWN BOLTS AND OTHER FIXING DEVICES SHALL HAVE A MINIMUM YIELD STRESS OF 300 MPa UNLESS NOTED OTHERWISE

6. ALL DRY PACK MORTAR / GROUT SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 30 MPa

7. SURFACE PREPARATION AND CORROSION PROTECTION OF STEELWORK SHALL BE IN ACCORDANCE WITH THE SPECIFICATION. ANY DAMAGE TO THE PROTECTIVE COATING OF STEELWORK SHALL BE MADE GOOD

8. BOLTS:

- 8.1. BOLTS AND NUTS SHALL BE GRADE 8.8 STEEL TO AS 1252:ISO METRIC HIGH STRENGTH STEEL PLTS U.N.O. ALL BOLTED CONNECTIONS SHALL BE GRADE 8.8/S CONNECTIONS U.N.O.
- 8.2. EDGE AND END DIST 2D
- 8.3. PITCH DISTANCES 2.5D
- 8.4. GAUGE DISTANCES 70, 90, 140 AS PER AISC. U.N.O
- 8.5. ALL BOLTS SHALL HAVE AT LEAST ONE WASHER WHICH SHALL BE NOT LESS THAN TWICE THE NOMINAL BOLT SIZE IN DIAMETER.
- 8.6. THE BOLTS SHALL BE SELECTED SO THAT THE PROJECTION BEYOND THE NUT IS NOT LESS THAN TWO THREADS AND NOT MORE THAN 10MM.

9. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL STEELWORK FOR APPROVAL PRIOR TO THE COMMENCEMENT OF WORK

10. MILL CERTIFICATES SHALL BE PROVIDED TO THE ENGINEER FOR ALL STEELWORK USED IN THIS CONTRACT.

11. HOLING:

- 11.1. HOLES FOR BOLTS SHALL BE DRILLED OR PUNCHED AND NOT GAS CUT.
- 11.2. COMMON DETAILING CRITERIA:
- 11.3. STANDARD HOLES
- 11.4. SLOTTED HOLES D-2mm
- 11.5. H.D. BOLTS D-2mm WIDE AND 2.5 LONG
- 11.6. 133D (FABRICATED WASHER) 1.22D (STANDARD WASHER)

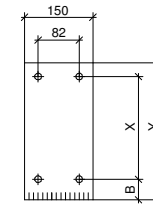
12. WELDS:

- 12.1. ALL WELDED CONNECTIONS SHALL BE OF SP GRADE METAL ARC AS SHOWN ON THE DRAWINGS.
- 12.2. ALL WELDING SHALL COMPLY WITH AS1554:PART 1 "WELDING OF STEEL STRUCTURES U.N.O.
- 12.3. WELDS EXPOSED IN THE COMPLETED BUILDING AND IN PARTICULAR BUTT WELDS SHALL BE NEATLY FINISHED AND GROUND SMOOTH.
- 12.4. ALL BUTT WELDS SHALL BE FULL PENETRATION, USING BACKING PLATES AS REQUIRED.
- 12.5. WELDING OF HOLLOW SECTIONS SHALL INCORPORATE INTERNAL SECTIONS OR BACKING PLATES AS NECESSARY TO COMPLETE THE SPECIFIED WELD.
- 12.6. ALL FILLET WELDS TO BE 6mm FILLET WELD ALL ROUND U.N.O

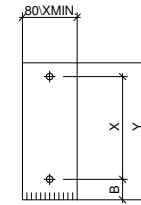
13. CONNECTIONS:

- 13.1. WHERE HERRA CONNECTIONS SPECIFIED CONTRACTOR TO BE ABLE TO ACCESS HERRA CONNECTIONS INFORMATION INDEPENDENTLY.

14. STANDATD DHS DETAILS:



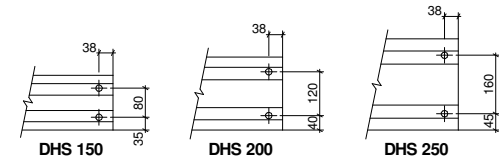
CLEATS AT INTERNAL SUPPORTS



CLEATS AT END SUPPORTS

DHS PURLIN	DIMENSIONS		
	B	X	Y
150/12 AND 15	41	80	150
200/12, 15 AND 18	48	120	200
250/13, 15 AND 18	53	160	250
300/15 AND 18	60	200	300
350/18	65	240	340
400/20	70	280	380

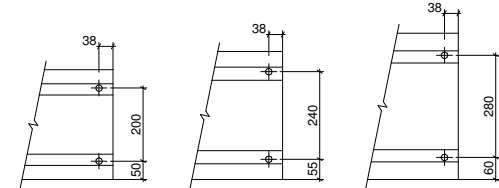
**CLEAT DIMENSIONS**



DHS 150

DHS 200

DHS 250



DHS 300

DHS 350

DHS 400

**DHS HOLE LOCATIONS**

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R0	Building Consent Issue	01/02/2017	WALLACE DEVELOPMENT Company Limited		# O Box 1033 242 Broadway Avenue Palmerston North 4410 +64 6 356 6371 +64 71 450 068 oec@omegaeng.co.nz	project title	Development 1333 Cameron Road Tauranga	drawn	CHIRAG PATEL	project date	01/02/2017	
						drawing title	Structural Notes	scale	@A3	issue date	01/02/2017	
ALL DIMENSIONS TO BE VERIFIED ON SITE								ref	1046	sheet	S01-02	
											rev	R0