

LIST OF FIGURES

FIGURE	PAGE NO.
1.1 Theoretical Stress Distribution for Varying L/D Ratios	6
2.1 Subdivision in to B and D Region	46
3.1 Beams of Different Series with Conventional Reinforcement	61
3.2 Load-Extension Curves for 16 mm Diameter Bar	62
3.3 Load-Extension Curves for 12 mm Diameter Bar	63
3.4 Strain Gauge Locations	64
3.5 Tension Test Specimen	65
3.6 Locations Showing Demec Discs	66
3.7 Test Loading Arrangement	67
4.1 Mechanism of Failure of Deep Beams	80
4.2 Modes of Failures of Deep Beams	81
4.3 Diagonal Tension in Various Beams	82
4.4 Effect of Inclined Cracking on the Distribution of Strains	83
4.5 Load-Deflection Curves for Beams of L/D = 1 for P60, F1.0D60, H1.0D60	84
4.6 Load-Deflection Curves for Beams of L/D = 1 for P60, F1.5D60, H1.5D60	84
4.7 Load-Deflection Curves for Beams of L/D = 1.2 for P50, F1.0D50, H1.0D50	85
4.8 Load-Deflection Curves for Beams of L/D = 1.2 for P50, F1.5D50, H1.5D50	85
4.9 Load-Deflection Curves for Beams of L/D = 1.5 for P40, F1.0D40, H1.0D40	86

FIGURE**PAGENO.**

4.10	Load-Deflection Curves for Beams of $L/D = 1.5$ for P40,F1.5D40,H1.5D40	86
4.11	Load-Deflection Curves for Beams of $L/D = 2.0$ for P30,F1.0D30,H1.0D30	87
4.12	Load-Deflection Curves for Beams of $L/D = 2.0$ for P30,F1.5D30,H1.5D30	87
4.13	Load-Deflection Curves for Beams of $L/D = 3.0$ for P20,F1.0D20,H1.0D20	88
4.14	Load-Deflection Curves for Beams of $L/D = 3.0$ for P20,F1.5D20,H1.5D20	88
4.15	Load-Deflection Curves for Beams of $L/D = 4.0$ for P15,F1.0D15,H1.0D15	89
4.16	Load-Deflection Curves for Beams of $L/D = 4.0$ for P15,F1.5D15,H1.5D15	89
4.17	Load-Deflection Curves for Beams of $L/D = 5.0$ for P12,F1.0D12,H1.0D12	90
4.18	Load-Deflection Curves for Beams of $L/D = 5.0$ for P12,F1.5D12,H1.5D12	90
4.19	Load-Deflection Curves for Beams of $L/D = 6.0$ for P10,F1.0D10,H1.0D10	91
4.20	Load-Deflection Curves for Beams of $L/D = 6.0$ for P10,F1.5D10,H1.5D10	91
4.21	Load v/s Steel Strain for Beam F1.5D60	92
4.22	Load v/s Steel Strain for Beam F1.5D50	93
4.23	Load v/s Steel Strain for Beam F1.5D40	94
4.24	Load v/s Steel Strain for Beam F1.5D30	95
4.25	Load v/s Steel Strain for Beam F1.5D20	96
4.26	Load v/s Steel Strain for Beam F1.5D15	97
4.27	Load v/s Steel Strain for Beam F1.5D12	98
4.28	Load v/s Steel Strain for Beam F1.5D10	99
4.29	Load v/s Crack width for Beam of $L/D = 3.0$ for P20,F1.0D20,H1.0D20	100

FIGURE	PAGENO.
4.30 Load v/s Crack width for Beam of L/D = 3.0 for P20,F1.5D20,H1.5D20	100
4.31 Load v/s Crack width for Beam of L/D = 4.0 for P15,F1.0D15,H1.0D15	101
4.32 Load v/s Crack width for Beam of L/D = 4.0 for P15,F1.5D15,H1.5D15	101
4.33 Load v/s Crack width for Beam of L/D = 5.0 for P12,F1.0D12,H1.0D12	102
4.34 Load v/s Crack width for Beam of L/D = 5.0 for P12,F1.5D12,H1.5D12	102
4.35 Load v/s Crack width for Beam of L/D = 6.0 for P10,F1.0D10,H1.0D10	103
4.36 Load v/s Crack width for Beam of L/D = 6.0 for P10,F1.5D10,H1.5D10	103
5.1 Tensile Stress-strain Curve for Concrete in Direct Tension	135
5.2 Variation of h_f and β_f with t_f	136
5.3 Sectional views of a Partially Fibrous Concrete Beam	137
5.4 Assumed Stress-strain Relationship for Concrete	138
5.5 Derivation of Ultimate Flexural Moment Equations	139
5.6 Geometry of a Flexural Cross Section	
a) Full depth Fibrous Concrete Section	140
b) Lower Half depth Fibrous Concrete Section	140
5.7 Splitting Analogy for a Deep Beam	141
5.8 Derivation of Shear Strength Equations	142
5.9 General Graphical Solution for Steel Stress (f_s)	143
5.10 Stress Distribution Between Adjacent Flexural Cracks	144