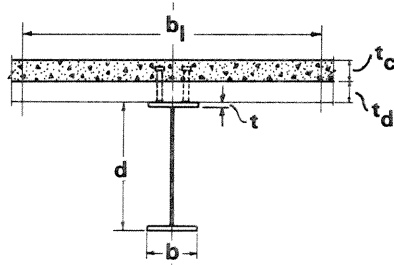


**COMPOSITE MEMBERS**  
**Trial Selection Tables**  
**Table 4.5**

**76 mm Deck with 90 mm Slab**  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



**300W**  
**20 MPa**

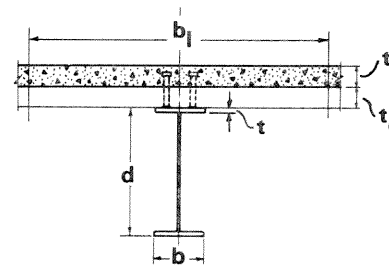
Steel Shape#	Composite Beam*							Non-Composite Shape						
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition					
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN) for				L'	M' <sub>r</sub>	L'	M' <sub>r</sub>		
		100%	75%	50%	100%									
<b>WWF700X151</b> b=300 t=22.0 d=700	2 960 2 470 1 980 1 490 1 000	2 120 2 060 2 000 1 930 1 820	2 050 2 000 1 940 1 860 1 760	1 960 1 900 1 840 1 760 1 680	2 720 2 270 1 820 1 370 918	4 300 4 100 3 870 3 560 3 160	6 810 6 730 6 620 6 470 6 240	M <sub>r</sub> 1 480 V <sub>r</sub> 846 L <sub>u</sub> 4 500 I <sub>x</sub> 1 740 S <sub>x</sub> 4 980	6 000 9 000 10 000 11 000 12 000	1 330 942 797 688 605	14 000 16 000 18 000 20 000 22 000	485 404 347 303 270		
<b>WWF700X141</b> b=300 t=20.0 d=700	2 960 2 470 1 980 1 490 1 000	2 020 1 960 1 900 1 830 1 720	1 950 1 900 1 840 1 760 1 660	1 860 1 800 1 740 1 660 1 570	2 720 2 270 1 820 1 370 918	4 090 3 910 3 680 3 400 3 010	6 410 6 340 6 240 6 090 5 880	M <sub>r</sub> 1 380 V <sub>r</sub> 846 L <sub>u</sub> 4 420 I <sub>x</sub> 1 620 S <sub>x</sub> 4 620	6 000 9 000 10 000 11 000 12 000	1 220 831 700 602 527	14 000 16 000 18 000 20 000 22 000	420 348 297 259 230		
<b>W610X155</b> W24X104 b=324 t=19.0 d=611	2 980 2 460 1 940 1 420 900	1 940 1 870 1 810 1 730 1 630 1 570	1 870 1 810 1 730 1 610 1 530 1 440	1 750 1 680 1 610 1 530 1 440	2 740 2 260 1 780 1 300 826	3 430 3 250 3 040 2 760 2 380	6 150 6 060 5 930 5 760 5 480	M <sub>r</sub> 1 280 V <sub>r</sub> 1 380 L <sub>u</sub> 4 740 I <sub>x</sub> 1 290 S <sub>x</sub> 4 220	6 000 9 000 10 000 11 000 12 000	1 180 886 762 659 579	13 000 14 000 16 000 18 000 20 000	516 465 388 333 291		
<b>W610X140</b> W24X94 b=230 t=22.2 d=617	2 890 2 390 1 890 1 400 900	1 790 1 730 1 660 1 570 1 480 1 420	1 720 1 660 1 570 1 450 1 380 1 290	1 590 1 530 1 450 1 380 1 290 826	2 650 2 190 1 740 1 290 826	3 140 2 990 2 790 2 540 2 200	5 520 5 440 5 320 5 160 4 910	M <sub>r</sub> 1 120 V <sub>r</sub> 1 440 L <sub>u</sub> 3 320 I <sub>x</sub> 1 120 S <sub>x</sub> 3 630	5 000 6 000 7 000 8 000 9 000	946 829 695 573 486	11 000 13 000 15 000 17 000 19 000	373 303 255 221 195		
<b>W610X125</b> W24X84 b=229 t=19.6 d=612	2 890 2 390 1 890 1 400 900	1 620 1 560 1 500 1 430 1 340 1 280	1 560 1 500 1 390 1 320 1 240 1 160	1 450 1 390 1 320 1 240 826	2 650 2 190 1 740 1 290 826	2 840 2 710 2 540 2 320 2 010	4 930 4 860 4 760 4 630 4 400	M <sub>r</sub> 991 V <sub>r</sub> 1 300 L <sub>u</sub> 3 250 I <sub>x</sub> 985 S <sub>x</sub> 3 220	5 000 6 000 7 000 8 000 9 000	821 708 575 470 396	11 000 13 000 15 000 17 000 19 000	301 243 204 176 155		
<b>W610X113</b> W24X76 b=228 t=17.3 d=608	2 880 2 390 1 890 1 400 900	1 500 1 440 1 380 1 310 1 230 1 180	1 430 1 380 1 270 1 210 1 130 1 050	1 330 1 270 1 210 1 130 826	2 640 2 190 1 740 1 290 826	2 600 2 480 2 330 2 140 1 850	4 460 4 400 4 320 4 200 4 000	M <sub>r</sub> 888 V <sub>r</sub> 1 210 L <sub>u</sub> 3 180 I <sub>x</sub> 875 S <sub>x</sub> 2 880	5 000 6 000 7 000 8 000 9 000	719 610 481 391 328	11 000 13 000 15 000 17 000 19 000	247 198 166 142 125		
<b>W610X101</b> W24X68 b=228 t=14.9 d=603	2 880 2 390 1 890 1 400 900	1 380 1 320 1 260 1 200 1 180 1 070	1 310 1 260 1 200 1 100 1 030 945	1 220 1 160 1 100 1 030 826	2 640 2 190 1 740 1 290 826	2 360 2 260 2 120 1 950 1 690	4 010 3 960 3 880 3 780 3 610	M <sub>r</sub> 783 V <sub>r</sub> 1 130 L <sub>u</sub> 3 110 I <sub>x</sub> 764 S <sub>x</sub> 2 530	5 000 6 000 7 000 8 000 9 000	619 512 396 320 267	11 000 13 000 15 000 17 000 19 000	199 158 132 113 98.4		
<b>W530X123</b> W21X83 b=212 t=21.2 d=544	2 870 2 350 1 830 1 320 800	1 460 1 400 1 330 1 260 1 110	1 390 1 330 1 260 1 160 1 090	1 290 1 230 1 160 1 090 734	2 630 2 160 1 680 1 210 734	2 320 2 200 2 050 1 850 1 560	4 450 4 380 4 280 4 140 3 890	M <sub>r</sub> 867 V <sub>r</sub> 1 270 L <sub>u</sub> 3 100 I <sub>x</sub> 761 S <sub>x</sub> 2 800	4 000 5 000 6 000 7 000 8 000	794 706 613 505 421	9 000 11 000 13 000 15 000 17 000	361 281 230 195 170		

Note: \*20 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup> S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>  
t—mm V<sub>r</sub>—kN

**COMPOSITE MEMBERS**  
**Trial Selection Tables**  
**Table 4.5**

**76 mm Deck with 90 mm Slab**  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



**300W**  
**20 MPa**

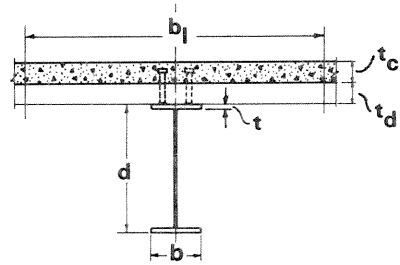
Steel Shape#	Composite Beam*							Non-Composite Shape						
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition					
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN) for				L'	M' <sub>r</sub>	L'	M' <sub>r</sub>		
		100%	75%	50%	100%									
<b>W530X109</b> W21X73 b=211 t=18.8 d=539	2 870 2 350 1 830 1 320 800	1 320 1 260 1 200 1 120 1 000	1 260 1 210 1 140 1 060 954	1 170 1 110 1 050 979 897	2 630 2 160 1 680 1 210 734	2 090 1 990 1 860 1 680 1 420	3 960 3 900 3 820 3 700 3 490	M <sub>r</sub> 764 V <sub>r</sub> 1 110 L <sub>u</sub> 3 040 I <sub>x</sub> 667 S <sub>x</sub> 2 480	4 000 5 000 6 000 7 000 8 000	692 608 517 413 342	9 000 11 000 13 000 15 000 17 000	291 225 183 155 134		
<b>W530X101</b> W21X68 b=210 t=17.4 d=537	2 870 2 350 1 830 1 320 800	1 250 1 190 1 120 1 050 942	1 190 1 130 1 070 997 896	1 100 1 050 989 920 840	2 630 2 160 1 680 1 210 734	1 970 1 870 1 750 1 590 1 350	3 690 3 630 3 560 3 450 3 270	M <sub>r</sub> 707 V <sub>r</sub> 1 040 L <sub>u</sub> 2 990 I <sub>x</sub> 617 S <sub>x</sub> 2 300	4 000 5 000 6 000 7 000 8 000	635 553 462 365 301	9 000 11 000 13 000 15 000 17 000	255 196 159 134 116		
<b>W530X92</b> W21X62 b=209 t=15.6 d=533	2 870 2 350 1 830 1 320 800	1 170 1 110 1 040 974 870	1 100 1 050 997 923 825	1 020 974 916 849 770	2 630 2 160 1 680 1 210 734	1 810 1 730 1 620 1 480 1 250	3 370 3 320 3 260 3 160 2 990	M <sub>r</sub> 637 V <sub>r</sub> 969 L <sub>u</sub> 2 930 I <sub>x</sub> 552 S <sub>x</sub> 2 070	3 000 4 000 5 000 6 000 7 000	633 565 486 393 309	8 000 10 000 12 000 14 000 16 000	253 185 146 120 103		
<b>W530X82</b> W21X55 b=209 t=13.3 d=528	2 870 2 350 1 830 1 320 800	1 070 1 010 946 882 784	1 010 956 904 835 741	927 883 829 764 687	2 630 2 160 1 680 1 210 734	1 620 1 550 1 460 1 340 1 140	2 990 2 950 2 900 2 820 2 670	M <sub>r</sub> 559 V <sub>r</sub> 894 L <sub>u</sub> 2 860 I <sub>x</sub> 479 S <sub>x</sub> 1 810	3 000 4 000 5 000 6 000 7 000	551 487 412 321 251	8 000 10 000 12 000 14 000 16 000	204 148 115 94.8 80.5		
<b>W460X106</b> W18X71 b=194 t=20.6 d=469	2 850 2 310 1 780 1 240 700	1 170 1 100 1 030 954 840	1 100 1 040 984 903 801	1 010 963 903 833 755	2 620 2 120 1 630 1 140 643	1 650 1 560 1 450 1 290 1 060	3 490 3 430 3 350 3 230 3 000	M <sub>r</sub> 645 V <sub>r</sub> 1 050 L <sub>u</sub> 2 910 I <sub>x</sub> 488 S <sub>x</sub> 2 080	3 000 4 000 5 000 6 000 7 000	640 579 512 444 366	8 000 9 000 11 000 13 000 15 000	308 266 210 174 148		
<b>W460X97</b> W18X65 b=193 t=19.0 d=466	2 850 2 310 1 770 1 240 700	1 090 1 020 957 886 780	1 020 970 913 839 742	942 895 839 774 697	2 620 2 120 1 620 1 140 643	1 520 1 450 1 350 1 210 992	3 200 3 150 3 080 2 970 2 770	M <sub>r</sub> 589 V <sub>r</sub> 947 L <sub>u</sub> 2 870 I <sub>x</sub> 445 S <sub>x</sub> 1 910	3 000 4 000 5 000 6 000 7 000	581 522 457 389 314	8 000 9 000 11 000 13 000 15 000	264 227 178 147 125		
<b>W460X89</b> W18X60 b=192 t=17.7 d=463	2 850 2 310 1 770 1 240 700	1 030 965 899 831 732	966 912 857 789 696	885 842 789 726 651	2 620 2 120 1 620 1 140 643	1 430 1 360 1 270 1 140 938	2 970 2 930 2 870 2 770 2 590	M <sub>r</sub> 543 V <sub>r</sub> 866 L <sub>u</sub> 2 830 I <sub>x</sub> 410 S <sub>x</sub> 1 770	3 000 4 000 5 000 6 000 7 000	534 477 414 343 276	8 000 9 000 11 000 13 000 15 000	231 198 155 127 108		
<b>W460X82</b> W18X55 b=191 t=16.0 d=460	2 850 2 310 1 770 1 240 700	962 900 836 770 677	902 849 795 732 643	823 782 733 672 600	2 620 2 120 1 620 1 140 643	1 320 1 260 1 170 1 060 876	2 720 2 680 2 630 2 540 2 380	M <sub>r</sub> 494 V <sub>r</sub> 812 L <sub>u</sub> 2 770 I <sub>x</sub> 370 S <sub>x</sub> 1 610	3 000 4 000 5 000 6 000 7 000	482 427 365 292 234	8 000 9 000 11 000 13 000 15 000	195 167 129 106 90.0		

Note: \*20 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup> S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>  
t—mm V<sub>r</sub>—kN

**COMPOSITE MEMBERS**  
**Trial Selection Tables**  
**Table 4.5**

**76 mm Deck with 90 mm Slab**  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



**300W**  
**20 MPa**

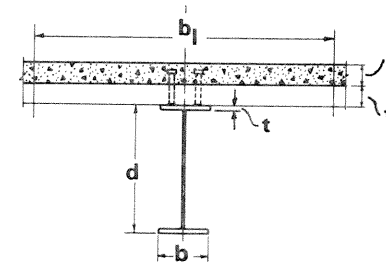
Steel Shape#	Composite Beam*							Non-Composite Shape					
	b <sub>1</sub> (mm)	Factored Resistances			Q <sub>r</sub> (kN) for 100%	I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections=							L'	M <sub>r</sub> '	L'	M <sub>r</sub> '	
		100%	75%	50%									
<b>W460X74</b> W18X50 b=190 t=14.5 d=457	2 850 2 310 1 770 1 240 700	895 839 775 711 626	836 789 736 678 593	759 724 679 622 551	2 550 2 120 1 620 1 140 643	1 210 1 160 1 080 983 816	2 480 2 440 2 400 2 320 2 190	M <sub>r</sub> 445 V <sub>r</sub> 733 L <sub>u</sub> 2 730 I <sub>x</sub> 333 S <sub>x</sub> 1 460	3 000 4 000 5 000 6 000 7 000	433 380 320 249 198	8 000 9 000 10 000 12 000 14 000	164 140 122 96.9 80.6	
<b>W460X67</b> W18X46 b=190 t=12.7 d=454	2 850 2 310 1 770 1 240 700	827 788 726 663 579	769 740 687 630 546	696 676 632 575 504	2 340 2 120 1 620 1 140 643	1 120 1 070 1 010 914 762	2 270 2 240 2 200 2 140 2 010	M <sub>r</sub> 405 V <sub>r</sub> 688 L <sub>u</sub> 2 660 I <sub>x</sub> 300 S <sub>x</sub> 1 320	3 000 4 000 5 000 6 000 7 000	390 339 281 214 169	8 000 9 000 10 000 12 000 14 000	140 119 103 82.0 68.0	
<b>W460X61</b> W18X41 b=189 t=10.8 d=450	2 850 2 310 1 770 1 240 700	744 726 667 605 525	688 679 629 576 494	621 617 576 522 453	2 100 2 100 1 620 1 140 643	1 000 961 907 828 693	2 020 2 000 1 960 1 910 1 800	M <sub>r</sub> 354 V <sub>r</sub> 650 L <sub>u</sub> 2 580 I <sub>x</sub> 259 S <sub>x</sub> 1 150	3 000 4 000 5 000 6 000 7 000	336 288 231 172 135	8 000 9 000 10 000 12 000 14 000	111 93.9 81.3 64.1 53.0	
<b>W410X85</b> W16X57 b=181 t=18.2 d=417	2 840 2 280 1 720 1 160 600	923 858 790 719 619	862 806 749 682 589	782 740 688 626 551	2 610 2 090 1 580 1 060 551	1 170 1 110 1 030 916 725	2 640 2 600 2 540 2 440 2 250	M <sub>r</sub> 467 V <sub>r</sub> 810 L <sub>u</sub> 2 730 I <sub>x</sub> 315 S <sub>x</sub> 1 510	3 000 4 000 5 000 6 000 7 000	455 406 354 297 243	8 000 9 000 10 000 11 000 12 000	205 178 157 141 127	
<b>W410X74</b> W16X50 b=180 t=16.0 d=413	2 840 2 280 1 720 1 160 600	846 785 718 650 558	787 735 679 617 529	709 671 624 566 494	2 580 2 090 1 580 1 060 551	1 050 1 000 934 832 663	2 340 2 310 2 260 2 180 2 010	M <sub>r</sub> 408 V <sub>r</sub> 714 L <sub>u</sub> 2 670 I <sub>x</sub> 275 S <sub>x</sub> 1 330	3 000 4 000 5 000 6 000 7 000	394 348 297 239 194	8 000 9 000 10 000 11 000 12 000	163 140 124 110 99.8	
<b>W410X67</b> W16X45 b=179 t=14.4 d=410	2 840 2 280 1 720 1 160 600	768 729 664 597 512	711 681 626 568 485	638 618 575 520 451	2 320 2 090 1 580 1 060 551	958 916 857 768 615	2 120 2 090 2 050 1 980 1 830	M <sub>r</sub> 367 V <sub>r</sub> 643 L <sub>u</sub> 2 610 I <sub>x</sub> 246 S <sub>x</sub> 1 200	3 000 4 000 5 000 6 000 7 000	352 307 258 201 161	8 000 9 000 10 000 11 000 12 000	135 116 102 90.5 81.7	
<b>W410X60</b> W16X40 b=178 t=12.8 d=407	2 830 2 280 1 720 1 160 600	684 666 606 540 463	629 619 569 514 439	563 558 521 472 406	2 050 2 050 1 580 1 060 551	858 823 773 697 563	1 880 1 850 1 820 1 760 1 640	M <sub>r</sub> 321 V <sub>r</sub> 558 L <sub>u</sub> 2 580 I <sub>x</sub> 216 S <sub>x</sub> 1 060	3 000 4 000 5 000 6 000 7 000	306 264 217 165 131	8 000 9 000 10 000 11 000 12 000	109 93.2 81.4 72.2 65.0	
<b>W410X54</b> W16X36 b=177 t=10.9 d=403	2 830 2 270 1 720 1 160 600	617 603 561 496 421	565 557 525 470 397	504 500 478 430 365	1 840 1 840 1 580 1 060 551	770 740 698 632 513	1 680 1 650 1 620 1 580 1 470	M <sub>r</sub> 283 V <sub>r</sub> 539 L <sub>u</sub> 2 480 I <sub>x</sub> 186 S <sub>x</sub> 924	3 000 4 000 5 000 6 000 7 000	266 225 176 132 104	8 000 9 000 10 000 11 000 12 000	86.1 73.2 63.6 56.3 50.5	

Note: \*20 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm      d—mm      M<sub>r</sub>—kN-m      L<sub>u</sub>—mm      I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
 t—mm      V<sub>r</sub>—kN      S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>

**COMPOSITE MEMBERS**  
**Trial Selection Tables**  
**Table 4.5**

**76 mm Deck with 90 mm Slab**  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



**300W**  
**20 MPa**

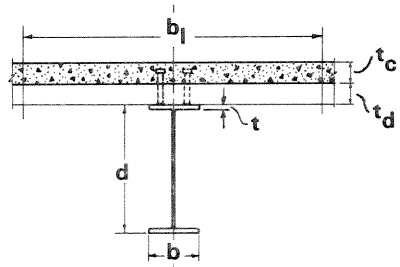
Steel Shape#	Composite Beam*							Non-Composite Shape					
	b <sub>1</sub> (mm)	Factored Resistances			Q <sub>r</sub> (kN) for 100%	I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections=							L'	M <sub>r</sub> '	L'	M <sub>r</sub> '	
		100%	75%	50%									
<b>W410X46</b> W16X31 b=140 t=11.2 d=403	2 800 2 250 1 700 1 150 600	540 529 509 446 375	492 486 474 421 352	437 434 428 383 321	1 590 1 590 1 560 1 060 551	676 651 616 562 462	1 450 1 430 1 410 1 370 1 280	M <sub>r</sub> 239 V <sub>r</sub> 503 L <sub>u</sub> 1 930 I <sub>x</sub> 156 S <sub>x</sub> 773	2 000 3 000 4 000 5 000 6 000	236 195 142 99.9 76.4	7 000 8 000 9 000 10 000 11 000	61.7 51.8 44.6 39.2 35.0	
<b>W410X39</b> W16X26 b=140 t=8.8 d=399	2 800 2 250 1 700 1 150 600	461 453 440 396 329	418 414 406 371 308	370 368 365 337 278	1 350 1 350 1 350 1 060 551	577 557 530 487 405	1 230 1 210 1 190 1 160 1 090	M <sub>r</sub> 197 V <sub>r</sub> 448 L <sub>u</sub> 1 860 I <sub>x</sub> 127 S <sub>x</sub> 634	2 000 3 000 4 000 4 500 5 000	193 155 105 86.7 73.1	6 000 7 000 8 000 9 000 10 000	55.2 44.1 36.6 31.3 27.4	
<b>W360X79</b> W14X53 b=205 t=16.8 d=354	2 860 2 280 1 710 1 130 550	800 734 667 595 509	740 684 628 568 485	662 620 578 524 456	2 630 2 090 1 570 1 040 505	900 854 792 697 537	2 280 2 240 2 190 2 110 1 930	M <sub>r</sub> 386 V <sub>r</sub> 593 L <sub>u</sub> 3 270 I <sub>x</sub> 227 S <sub>x</sub> 1 280	4 000 5 000 6 000 7 000 7 500	364 331 298 264 244	8 000 8 500 9 000 10 000 11 000	225 209 195 172 154	
<b>W360X72</b> W14X48 b=204 t=15.1 d=350	2 860 2 280 1 710 1 130 550	735 683 617 547 465	677 634 579 520 443	602 572 530 480 414	2 460 2 090 1 570 1 040 505	818 778 724 641 496	2 060 2 030 1 980 1 910 1 750	M <sub>r</sub> 346 V <sub>r</sub> 536 L <sub>u</sub> 3 190 I <sub>x</sub> 201 S <sub>x</sub> 1 150	4 000 5 000 6 000 7 000 7 500	322 290 257 222 203	8 000 8 500 9 000 10 000 11 000	186 172 161 141 126	
<b>W360X64</b> W14X43 b=203 t=13.5 d=347	2 860 2 280 1 700 1 130 550	663 635 568 501 424	607 587 531 475 403	538 525 484 438 375	2 200 2 090 1 560 1 040 505	740 706 659 588 458	1 850 1 820 1 780 1 720 1 590	M <sub>r</sub> 308 V <sub>r</sub> 476 L <sub>u</sub> 3 110 I <sub>x</sub> 178 S <sub>x</sub> 1 030	4 000 5 000 6 000 7 000 7 500	283 252 220 183 167	8 000 8 500 9 000 10 000 11 000	153 141 131 115 102	
<b>W360X57</b> W14X38 b=172 t=13.1 d=358	2 830 2 260 1 690 1 120 550	607 590 536 469 393	553 544 499 443 372	489 485 453 406 344	1 950 1 950 1 550 1 030 505	692 662 621 556 438	1 660 1 640 1 610 1 550 1 440	M <sub>r</sub> 273 V <sub>r</sub> 504 L <sub>u</sub> 2 550 I <sub>x</sub> 161 S <sub>x</sub> 897	3 000 4 000 5 000 6 000 6 500	259 225 189 147 132	7 000 7 500 8 000 9 000 10 000	119 109 99.8 86.0 75.7	
<b>W360X51</b> W14X34 b=171 t=11.6 d=355	2 830 2 260 1 690 1 120 550	546 532 497 431 359	495 488 461 406 339	436 433 415 372 312	1 740 1 740 1 550 1 030 505	623 598 562 507 402	1 490 1 470 1 440 1 390 1 290	M <sub>r</sub> 241 V <sub>r</sub> 455 L <sub>u</sub> 2 500 I <sub>x</sub> 141 S <sub>x</sub> 796	3 000 4 000 5 000 6 000 6 500	227 195 159 121 108	7 000 7 500 8 000 9 000 10 000	97.0 88.3 81.0 69.5 60.9	
<b>W360X45</b> W14X30 b=171 t=9.8 d=352	2 830 2 260 1 690 1 120 550	488 477 460 395 325	441 435 425 371 306	387 384 380 338 280	1 550 1 550 1 550 1 030 505	557 536 506 458 367	1 320 1 300 1 280 1 240 1 150	M <sub>r</sub> 210 V <sub>r</sub> 433 L <sub>u</sub> 2 430 I <sub>x</sub> 122 S <sub>x</sub> 691	3 000 4 000 5 000 6 000 6 500	195 165 128 96.1 85.3	7 000 7 500 8 000 9 000 10 000	76.5 69.4 63.4 54.1 47.2	

Note: \*20 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm      d—mm      M<sub>r</sub>—kN-m      L<sub>u</sub>—mm      I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
 t—mm      V<sub>r</sub>—kN      S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>

**COMPOSITE MEMBERS**  
Trial Selection Tables  
Table 4.5

76 mm Deck with 90 mm Slab  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



300W  
20 MPa

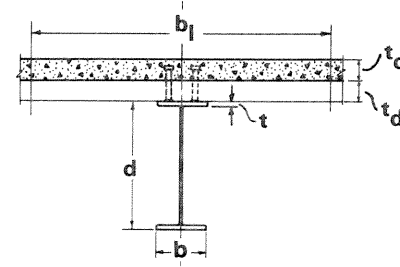
Steel Shape#	Composite Beam*							Non-Composite Shape					
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN) for 100%				L'	M' <sub>r</sub> kN-m	L'	M' <sub>r</sub> kN-m	
		100%	75%	50%									
<b>W360X39</b> W14X26 b=128 t=10.7 d=353	2 780 2 230 1 670 1 110 550	429 421 407 360 292	386 382 374 336 274	338 336 332 304 248	1 340 1 340 1 340 1 020 505	491 474 449 409 332	1 150 1 130 1 110 1 080 1 010	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	179 409 1 790 102 580	2 000 3 000 4 000 4 500 5 000	173 139 97.2 81.3 69.8	5 500 6 000 7 000 8 000 9 000	61.1 54.2 44.3 37.5 32.5
<b>W360X33</b> W14X22 b=127 t=8.5 d=349	2 780 2 220 1 670 1 110 550	361 355 346 320 255	323 320 315 297 238	282 281 278 267 214	1 130 1 130 1 130 1 020 505	415 401 382 351 289	966 952 935 908 853	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	146 361 1 720 82.7 474	2 000 3 000 4 000 4 500 5 000	139 108 70.3 58.4 49.7	5 500 6 000 7 000 8 000 9 000	43.2 38.1 30.8 25.9
<b>W310X129</b> W12X87 b=308 t=20.6 d=318	2 960 2 350 1 730 1 120 500	1 030 954 876 797 694	960 898 834 765 671	874 829 778 717 644	2 720 2 160 1 590 1 030 459	1 140 1 070 966 824 601	3 410 3 340 3 230 3 060 2 710	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	583 742 5 580 308 1 940	6 000 6 500 7 000 7 500 8 000	573 562 550 539 527	8 500 9 000 9 500 10 000	515 504 492 481
<b>W310X118</b> W12X79 b=307 t=18.7 d=314	2 960 2 350 1 730 1 120 500	959 886 810 733 634	893 832 769 703 613	809 764 716 658 459	2 720 2 160 1 590 1 030 459	1 050 985 894 765 558	3 100 3 040 2 950 2 800 2 490	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	526 666 5 390 275 1 750	6 000 6 500 7 000 7 500 8 000	513 501 490 478 467	8 500 9 000 9 500 10 000	455 444 432 421
<b>W310X107</b> W12X72 b=306 t=17.0 d=311	2 960 2 350 1 730 1 120 500	897 825 750 674 582	832 772 710 647 561	750 705 659 605 535	2 720 2 160 1 590 1 030 459	969 910 829 713 521	2 830 2 780 2 700 2 570 2 290	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	478 604 5 220 248 1 590	6 000 6 500 7 000 7 500 8 000	461 450 438 427 415	8 500 9 000 9 500 10 000	404 393 381 370
<b>W310X86</b> W12X58 b=254 t=16.3 d=310	2 910 2 310 1 710 1 100 500	783 714 643 569 485	722 664 604 543 466	642 599 556 505 441	2 670 2 120 1 570 1 010 459	818 773 711 615 456	2 320 2 280 2 220 2 120 1 910	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	383 503 4 250 199 1 280	5 000 5 500 6 000 6 500 7 000	367 355 344 332 320	7 500 8 000 8 500 9 000 9 500	309 297 285 273 262
<b>W310X79</b> W12X53 b=254 t=14.6 d=306	2 910 2 310 1 710 1 100 500	740 672 602 529 447	680 623 564 503 427	602 559 516 467 403	2 670 2 120 1 570 1 010 459	752 712 656 571 424	2 120 2 090 2 040 1 950 1 760	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	346 480 4 140 177 1 160	5 000 5 500 6 000 6 500 7 000	327 316 305 293 282	7 500 8 000 8 500 9 000 9 500	270 258 247 235 221
<b>W310X74</b> W12X50 b=205 t=16.3 d=310	2 860 2 270 1 680 1 090 500	710 648 579 507 424	651 599 541 482 404	574 536 493 444 379	2 560 2 080 1 540 1 000 459	720 682 630 550 410	2 000 1 970 1 920 1 840 1 660	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	321 519 3 380 165 1 060	4 000 5 000 6 000 6 500 7 000	307 282 258 245 233	7 500 8 000 8 500 9 000 9 500	221 206 192 179 168

Note: \*20 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
t—mm V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>

**COMPOSITE MEMBERS**  
Trial Selection Tables  
Table 4.5

76 mm Deck with 90 mm Slab  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



300W  
20 MPa

Steel Shape#	Composite Beam*							Non-Composite Shape					
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN) for 100%				L'	M' <sub>r</sub> kN-m	L'	M' <sub>r</sub> kN-m	
		100%	75%	50%									
<b>W310X67</b> W12X45 b=204 t=14.6 d=306	2 860 2 270 1 680 1 090 500	642 603 536 465 386	585 556 499 440 367	514 494 452 405 343	2 300 2 080 1 540 1 000 459	650 618 573 503 378	1 800 1 770 1 730 1 660 1 500	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	286 463 3 280 145 949	4 000 5 000 6 000 6 500 7 000	270 246 222 210 198	7 500 8 000 8 500 9 000 9 500	184 169 157 147 138
<b>W310X60</b> W12X40 b=203 t=13.1 d=303	2 860 2 270 1 680 1 090 500	579 560 496 427 352	524 513 460 402 334	458 453 414 370 311	2 050 2 050 1 540 1 000 459	588 561 522 462 350	1 610 1 590 1 550 1 490 1 360	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	254 405 3 200 129 849	4 000 5 000 6 000 6 500 7 000	237 214 191 179 166	7 500 8 000 8 500 9 000 9 500	151 139 129 120 112
<b>W310X52</b> W12X35 b=167 t=13.2 d=317	2 820 2 240 1 660 1 080 500	528 513 469 402 328	477 469 434 378 311	416 413 389 346 288	1 800 1 800 1 520 991 459	554 530 495 441 339	1 450 1 430 1 390 1 340 1 230	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	226 429 2 570 118 747	3 000 4 000 5 000 5 500 6 000	216 189 162 146 130	6 500 7 000 7 500 8 000 8 500	116 106 96.8 89.4 83.0
<b>W310X45</b> W12X30 b=166 t=11.2 d=313	2 820 2 240 1 660 1 080 500	454 444 425 359 289	408 402 391 335 273	354 352 346 305 251	1 540 1 540 1 520 991 459	479 460 432 388 302	1 240 1 220 1 200 1 160 1 070	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	191 368 2 490 99.2 634	3 000 4 000 5 000 5 500 6 000	180 155 128 111 98.2	6 500 7 000 7 500 8 000 8 500	87.8 79.3 72.4 66.5 61.6
<b>W310X39</b> W12X26 b=165 t=9.7 d=310	2 820 2 240 1 660 1 080 500	397 389 376 326 258	355 350 343 303 244	307 305 302 274 224	1 330 1 330 1 330 991 459	421 405 383 346 273	1 090 1 070 1 050 1 010 940	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	165 320 2 440 85.1 549	3 000 4 000 5 000 5 500 6 000	153 130 103 88.5 77.7	6 500 7 000 7 500 8 000 8 500	69.1 62.2 56.5 51.8 47.8
<b>W250X101</b> W10X68 b=257 t=19.6 d=264	2 910 2 310 1 710 1 100 500	781 710 637 560 475	717 657 596 533 457	635 591 546 495 433	2 670 2 120 1 570 1 010 459	747 700 636 542 390	2 450 2 400 2 330 2 210 1 950	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	378 560 4 950 164 1 240	5 000 5 500 6 000 6 500 7 000	377 369 361 354 346	7 500 8 000 8 500	338 330 323
<b>W250X89</b> W10X60 b=256 t=17.3 d=260	2 910 2 310 1 710 1 100 500	723 653 582 507 427	661 602 543 481 409	581 538 494 446 386	2 670 2 120 1 570 1 010 459	671 631 577 494 358	2 180 2 140 2 080 1 980 1 760	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	332 496 4 690 143 1 100	5 000 5 500 6 000 6 500 7 000	327 320 312 304 296	7 500 8 000 8 500	289 281 273
<b>W250X80</b> W10X54 b=255 t=15.6 d=256	2 910 2 310 1 710 1 100 500	676 608 537 464 387	615 558 499 438 370	537 494 451 406 349	2 670 2 120 1 570 1 010 459	607 573 526 454 331	1 960 1 920 1 870 1 780 1 600	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	294 429 4 520 126 982	5 000 5 500 6 000 6 500 7 000	287 280 272 265 257	7 500 8 000 8 500	249 242 234

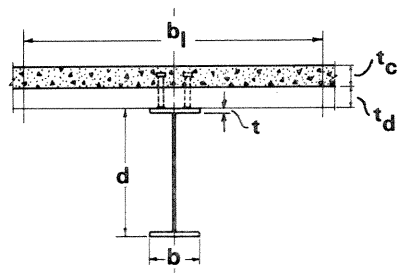
Note: \*20 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
t—mm V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>



**COMPOSITE MEMBERS**  
Trial Selection Tables  
Table 4.5

76 mm Deck with 90 mm Slab  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



300W  
20 MPa

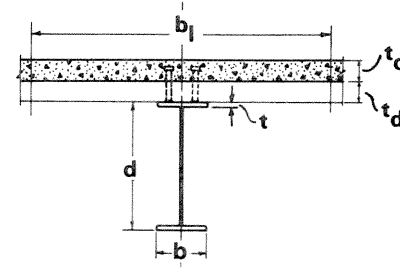
Steel Shape#	Composite Beam*							Non-Composite Shape						
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition					
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN) for				L'	M <sub>r</sub> '	L'	M <sub>r</sub> '		
		100%	75%	50%	100%									
<b>W250X73</b> W10X49 b=254 t=14.2 d=253	2 910 2 310 1 710 1 100 500	627 573 504 431 356	568 524 466 406 341	493 461 419 375 320	2 510 2 120 1 570 1 010 459	558 528 486 422 309	1 790 1 760 1 710 1 640 1 470	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	266 388 4 390 113 891	5 000 5 500 6 000 6 500 7 000	257 250 242 235 227	7 500 8 000 8 500 205	220 212 205	
<b>W250X67</b> W10X45 b=204 t=15.7 d=257	2 860 2 270 1 680 1 090 500	589 549 481 410 335	531 501 444 385 319	459 439 397 353 298	2 310 2 080 1 540 1 000 459	528 500 462 403 298	1 660 1 630 1 590 1 520 1 370	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	243 408 3 570 104 806	4 000 4 500 5 000 5 500 6 000	237 229 221 213 205	6 500 7 000 7 500 174	197 189 181 174	
<b>W250X58</b> W10X39 b=203 t=13.5 d=252	2 860 2 270 1 680 1 090 500	516 498 438 369 297	462 452 402 345 282	397 392 356 314 261	2 000 2 000 1 540 1 000 459	462 439 408 359 268	1 440 1 420 1 380 1 330 1 200	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	208 359 3 410 87.3 693	4 000 4 500 5 000 5 500 6 000	199 191 184 176 168	6 500 7 000 7 500 137	160 153 145 137	
<b>W250X49</b> W10X33 b=202 t=11.0 d=247	2 860 2 270 1 680 1 090 500	440 427 395 327 257	390 383 360 304 243	333 330 315 274 224	1 690 1 690 1 540 1 000 459	393 375 350 311 236	1 220 1 200 1 170 1 130 1 030	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	171 326 3 240 70.6 572	4 000 4 500 5 000 5 500 6 000	160 153 146 138 130	6 500 7 000 7 500 97.2	123 115 106 97.2	
<b>W250X45</b> W10X30 b=148 t=13.0 d=266	2 800 2 230 1 650 1 080 500	420 409 389 323 253	373 367 355 300 239	319 317 310 270 219	1 540 1 540 1 510 991 459	393 376 352 315 242	1 150 1 130 1 100 1 060 974	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	163 360 2 360 71.1 534	3 000 3 500 4 000 4 500 5 000	151 142 132 122 112	5 500 6 000 6 500 7 000 7 500	101 90.6 82.2 75.2 69.3	
<b>W250X39</b> W10X26 b=147 t=11.2 d=262	2 800 2 230 1 650 1 080 500	364 356 342 293 225	321 317 309 270 212	274 272 268 241 193	1 330 1 330 1 330 991 459	342 328 309 279 217	994 978 956 924 851	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	139 308 2 280 60.1 459	3 000 3 500 4 000 4 500 5 000	126 117 108 98.6 88.0	5 500 6 000 6 500 7 000 7 500	77.5 69.2 62.5 57.0 52.4	
<b>W250X33</b> W10X22 b=146 t=9.1 d=258	2 800 2 230 1 650 1 080 500	310 304 294 265 198	272 269 264 243 186	231 230 227 214 168	1 130 1 130 1 130 991 459	292 281 266 241 191	845 832 813 786 729	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	114 280 2 180 48.9 379	3 000 3 500 4 000 4 500 5 000	102 93.1 84.0 74.1 63.6	5 500 6 000 6 500 7 000 7 500	55.6 49.4 44.4 40.3 36.9	
<b>W200X86</b> W8X58 b=209 t=20.6 d=222	2 870 2 270 1 680 1 090 500	651 581 510 436 357	589 530 471 410 340	509 465 421 375 319	2 630 2 080 1 540 1 000 459	538 504 459 391 278	1 950 1 910 1 850 1 750 1 540	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	265 514 4 620 94.7 853	5 000 5 500 6 000 6 500 7 000	261 256 251 245 240	7 500 8 000	235 230	

Note: \*20 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b-mm d-mm M<sub>r</sub>-kN-m L<sub>u</sub>-mm I<sub>x</sub>-10<sup>6</sup>mm<sup>4</sup> V<sub>r</sub>-kN S<sub>x</sub>-10<sup>3</sup>mm<sup>3</sup>

**COMPOSITE MEMBERS**  
Trial Selection Tables  
Table 4.5

76 mm Deck with 90 mm Slab  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



300W  
20 MPa

Steel Shape#	Composite Beam*							Non-Composite Shape						
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition					
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN) for				L'	M <sub>r</sub> '	L'	M <sub>r</sub> '		
		100%	75%	50%	100%									
<b>W200X71</b> W8X48 b=206 t=17.4 d=216	2 860 2 270 1 680 1 090 500	570 517 448 377 303	512 469 411 352 288	437 406 363 320 269	2 460 2 080 1 540 1 000 459	453 428 392 338 244	1 620 1 590 1 540 1 470 1 310	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	217 393 4 150 76.6 709	5 000 5 500 6 000 6 500 7 000	208 203 198 193 188	7 500 8 000	183 178	
<b>W200X59</b> W8X40 b=205 t=14.2 d=210	2 860 2 270 1 680 1 090 500	482 463 400 331 259	427 417 364 306 245	361 357 318 275 227	2 040 2 040 1 540 1 000 459	382 362 334 292 214	1 350 1 330 1 290 1 240 1 110	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	176 341 3 780 61.1 582	4 000 4 500 5 000 5 500 6 000	174 169 164 159 154	6 500 7 000 7 500	149 144 139	
<b>W200X52</b> W8X35 b=204 t=12.6 d=206	2 860 2 270 1 680 1 090 500	428 414 372 303 233	377 369 336 279 221	317 313 291 249 203	1 800 1 800 1 540 1 000 459	340 323 300 263 195	1 200 1 180 1 150 1 100 994	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	154 290 3 620 52.7 512	4 000 4 500 5 000 5 500 6 000	150 145 140 135 131	6 500 7 000 7 500	126 121 116	
<b>W200X46</b> W8X31 b=203 t=11.0 d=203	2 860 2 270 1 680 1 090 500	380 369 347 280 210	333 326 313 257 199	278 276 268 227 183	1 580 1 580 1 540 1 000 459	303 288 269 238 179	1 060 1 040 1 020 977 889	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	134 260 3 460 45.5 448	4 000 4 500 5 000 5 500 6 000	129 124 119 114 109	6 500 7 000 7 500	105 99.8 94.9	
<b>W200X42</b> W8X28 b=166 t=11.8 d=205	2 820 2 240 1 660 1 080 500	349 340 324 266 197	305 299 291 243 186	254 252 248 213 169	1 430 1 430 1 430 991 459	281 268 250 223 170	969 951 927 892 815	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	120 263 2 850 40.9 399	3 000 3 500 4 000 4 500 5 000	119 114 109 104 98.6	5 500 6 000 6 500 7 000	93.5 88.4 83.4 77.7	
<b>W200X36</b> W8X24 b=165 t=10.2 d=201	2 820 2 240 1 660 1 080 500	303 296 284 244 176	263 259 252 221 165	218 216 213 192 150	1 240 1 240 1 240 991 459	244 234 219 197 152	841 826 806 776 713	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	103 222 2 730 34.4 342	3 000 3 500 4 000 4 500 5 000	100 95.3 90.4 85.5 80.5	5 500 6 000 6 500	75.5 70.6 64.7	
<b>W200X31</b> W8X21 b=134 t=10.2 d=210	2 790 2 220 1 650 1 070 500	272 267 258 232 166	236 233 228 210 155	196 195 192 181 140	1 080 1 080 1 080 982 459	227 218 205 185 146	748 736 719 692 639	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	90.4 240 2 150 31.4 299	3 000 3 500 4 000 4 500 5 000	81.1 75.3 69.5 63.6 57.0	5 500 6 000	50.6 45.6	
<b>W200X27</b> W8X18 b=133 t=8.4 d=207	2 790 2 220 1 640 1 070 500	232 228 222 208 149	200 198 194 187 138	166 165 163 160 123	915 915 915 915 459	194 187 177 161 129	637 628 614 592 549	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	75.3 214 2 050 25.8 249	3 000 3 500 4 000 4 500 5 000	65.4 59.7 54.0 47.5 41.2	5 500 6 000	36.4 32.6	

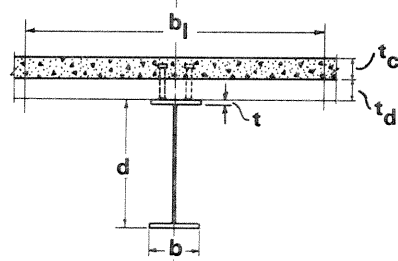
Note: \*20 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b-mm d-mm M<sub>r</sub>-kN-m L<sub>u</sub>-mm I<sub>x</sub>-10<sup>6</sup>mm<sup>4</sup> V<sub>r</sub>-kN S<sub>x</sub>-10<sup>3</sup>mm<sup>3</sup>



**COMPOSITE MEMBERS**  
Trial Selection Tables  
Table 4.6

76 mm Deck with 75 mm Slab  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



300W  
25 MPa

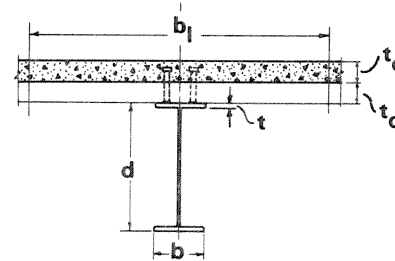
Steel Shape#	Composite Beam*							Non-Composite Shape				
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition			
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN) for				L' mm	M <sub>r'</sub> kN-m	L' mm	M <sub>r'</sub> kN-m
		100%	75%	50%	100%							
<b>WWF700X151</b> b=300 t=22.0 d=700	2 720 2 290 1 860 1 430 1 000	2 090 2 040 1 980 1 920 1 820	1 930 1 880 1 820 1 750 1 680	2 600 2 190 1 780 1 370 956	4 050 3 870 3 660 3 390 3 050	6 660 6 580 6 480 6 340 6 140	M <sub>r</sub> 1 480 V <sub>r</sub> 846 L <sub>u</sub> 4 500 I <sub>x</sub> 1 740 S <sub>x</sub> 4 980	6 000 9 000 10 000 11 000 12 000	1 330 942 797 688 605	14 000 16 000 18 000 20 000 22 000	485 404 347 303 270	
<b>WWF700X141</b> b=300 t=20.0 d=700	2 720 2 290 1 860 1 430 1 000	1 990 1 940 1 880 1 830 1 720	1 830 1 780 1 720 1 650 1 580	2 600 2 190 1 780 1 370 956	3 860 3 690 3 480 3 230 2 910	6 270 6 190 6 100 5 970 5 780	M <sub>r</sub> 1 380 V <sub>r</sub> 846 L <sub>u</sub> 4 420 I <sub>x</sub> 1 620 S <sub>x</sub> 4 620	6 000 9 000 10 000 11 000 12 000	1 220 831 700 602 527	14 000 16 000 18 000 20 000 22 000	420 348 297 259 230	
<b>W610X155</b> W24X104 b=324 t=19.0 d=611	2 740 2 280 1 820 1 360 900	1 900 1 840 1 780 1 690 1 580	1 830 1 780 1 710 1 620 1 510	2 620 2 180 1 740 1 300 861	3 210 3 050 2 860 2 610 2 290	5 980 5 890 5 780 5 620 5 380	M <sub>r</sub> 1 280 V <sub>r</sub> 1 380 L <sub>u</sub> 4 740 I <sub>x</sub> 1 290 S <sub>x</sub> 4 220	6 000 9 000 10 000 11 000 12 000	1 180 886 762 659 579	13 000 14 000 16 000 18 000 20 000	516 465 388 333 291	
<b>W610X140</b> W24X94 b=230 t=22.2 d=617	2 650 2 210 1 770 1 340 900	1 760 1 700 1 630 1 550 1 440	1 690 1 630 1 550 1 440 1 370	2 530 2 110 1 690 1 280 861	2 940 2 800 2 620 2 400 2 110	5 370 5 280 5 180 5 030 4 800	M <sub>r</sub> 1 120 V <sub>r</sub> 1 440 L <sub>u</sub> 3 320 I <sub>x</sub> 1 120 S <sub>x</sub> 3 630	5 000 6 000 7 000 8 000 9 000	946 829 695 573 486	11 000 13 000 15 000 17 000 19 000	373 303 255 221 195	
<b>W610X125</b> W24X84 b=229 t=19.6 d=612	2 650 2 210 1 770 1 340 900	1 590 1 530 1 470 1 410 1 300	1 520 1 460 1 410 1 300 1 230	2 530 2 110 1 690 1 280 861	2 670 2 540 2 380 2 190 1 930	4 790 4 720 4 630 4 510 4 310	M <sub>r</sub> 991 V <sub>r</sub> 1 300 L <sub>u</sub> 3 250 I <sub>x</sub> 985 S <sub>x</sub> 3 220	5 000 6 000 7 000 8 000 9 000	821 708 575 470 396	11 000 13 000 15 000 17 000 19 000	301 243 204 176 155	
<b>W610X113</b> W24X76 b=228 t=17.3 d=608	2 640 2 210 1 770 1 340 900	1 460 1 410 1 350 1 290 1 190	1 400 1 350 1 290 1 190 1 050	2 520 2 110 1 690 1 280 861	2 440 2 330 2 190 2 020 1 780	4 340 4 280 4 200 4 090 3 920	M <sub>r</sub> 888 V <sub>r</sub> 1 210 L <sub>u</sub> 3 180 I <sub>x</sub> 875 S <sub>x</sub> 2 880	5 000 6 000 7 000 8 000 9 000	719 610 481 391 328	11 000 13 000 15 000 17 000 19 000	247 198 166 142 125	
<b>W610X101</b> W24X68 b=228 t=14.9 d=603	2 640 2 210 1 770 1 340 900	1 340 1 290 1 240 1 180 1 080	1 280 1 240 1 180 1 080 1 020	2 520 2 110 1 690 1 280 861	2 220 2 120 2 000 1 840 1 620	3 900 3 850 3 780 3 680 3 530	M <sub>r</sub> 783 V <sub>r</sub> 1 130 L <sub>u</sub> 3 110 I <sub>x</sub> 764 S <sub>x</sub> 2 530	5 000 6 000 7 000 8 000 9 000	619 512 396 320 267	11 000 13 000 15 000 17 000 19 000	199 158 132 113 98.4	
<b>W530X123</b> W21X83 b=212 t=21.2 d=544	2 630 2 170 1 710 1 260 800	1 430 1 370 1 310 1 240 1 110	1 360 1 310 1 240 1 140 1 000	2 510 2 080 1 640 1 200 765	2 170 2 060 1 920 1 740 1 490	4 310 4 240 4 150 4 020 3 800	M <sub>r</sub> 867 V <sub>r</sub> 1 270 L <sub>u</sub> 3 100 I <sub>x</sub> 761 S <sub>x</sub> 2 800	4 000 5 000 6 000 7 000 8 000	794 706 613 505 421	9 000 11 000 13 000 15 000 17 000	361 281 230 195 170	

Note: \*25 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup> V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>

**COMPOSITE MEMBERS**  
Trial Selection Tables  
Table 4.6

76 mm Deck with 75 mm Slab  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



300W  
25 MPa

Steel Shape#	Composite Beam*							Non-Composite Shape				
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition			
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN) for				L' mm	M <sub>r'</sub> kN-m	L' mm	M <sub>r'</sub> kN-m
		100%	75%	50%	100%							
<b>W530X109</b> W21X73 b=211 t=18.8 d=539	2 630 2 170 1 710 1 260 800	1 290 1 230 1 180 1 110 1 010	1 230 1 180 1 120 1 050 956	1 140 1 090 1 030 971 898	2 510 2 080 1 640 1 200 765	1 960 1 860 1 740 1 580 1 360	3 840 3 780 3 700 3 590 3 410	M <sub>r</sub> 764 V <sub>r</sub> 1 110 L <sub>u</sub> 3 040 I <sub>x</sub> 667 S <sub>x</sub> 2 480	4 000 5 000 6 000 7 000 8 000	692 608 517 413 342	9 000 11 000 13 000 15 000 17 000	291 225 183 155 134
<b>W530X101</b> W21X68 b=210 t=17.4 d=537	2 630 2 170 1 710 1 260 800	1 220 1 160 1 110 1 040 945	1 160 1 110 1 060 987 898	1 070 1 030 973 912 841	2 510 2 080 1 640 1 200 765	1 840 1 750 1 640 1 500 1 290	3 580 3 530 3 460 3 360 3 190	M <sub>r</sub> 707 V <sub>r</sub> 1 040 L <sub>u</sub> 2 990 I <sub>x</sub> 617 S <sub>x</sub> 2 300	4 000 5 000 6 000 7 000 8 000	635 553 462 365 301	9 000 11 000 13 000 15 000 17 000	255 196 159 134 116
<b>W530X92</b> W21X62 b=209 t=15.6 d=533	2 630 2 170 1 710 1 260 800	1 130 1 080 1 020 964 872	1 070 1 030 979 914 827	996 953 900 841 771	2 510 2 080 1 640 1 200 765	1 700 1 620 1 520 1 390 1 200	3 270 3 220 3 160 3 070 2 920	M <sub>r</sub> 637 V <sub>r</sub> 969 L <sub>u</sub> 2 930 I <sub>x</sub> 552 S <sub>x</sub> 2 070	3 000 4 000 5 000 6 000 7 000	633 565 486 393 309	8 000 10 000 12 000 14 000 16 000	253 185 146 120 103
<b>W530X82</b> W21X55 b=209 t=13.3 d=528	2 630 2 170 1 710 1 260 800	1 030 981 928 872 786	976 932 887 826 743	903 863 814 756 688	2 510 2 080 1 640 1 200 765	1 520 1 460 1 370 1 260 1 090	2 900 2 870 2 810 2 740 2 610	M <sub>r</sub> 559 V <sub>r</sub> 894 L <sub>u</sub> 2 860 I <sub>x</sub> 479 S <sub>x</sub> 1 810	3 000 4 000 5 000 6 000 7 000	551 487 412 321 251	8 000 10 000 12 000 14 000 16 000	204 148 115 94.8 80.5
<b>W460X106</b> W18X71 b=194 t=20.6 d=469	2 610 2 130 1 660 1 180 700	1 130 1 070 1 010 944 843	1 070 1 020 966 893 803	988 941 888 826 755	2 500 2 040 1 590 1 130 669	1 530 1 450 1 350 1 210 1 010	3 370 3 320 3 240 3 120 2 920	M <sub>r</sub> 645 V <sub>r</sub> 1 050 L <sub>u</sub> 2 910 I <sub>x</sub> 488 S <sub>x</sub> 2 080	3 000 4 000 5 000 6 000 7 000	640 579 512 444 366	8 000 9 000 11 000 13 000 15 000	308 266 210 174 148
<b>W460X97</b> W18X65 b=193 t=19.0 d=466	2 610 2 130 1 650 1 180 700	1 050 997 938 875 782	994 946 895 830 744	918 875 824 766 698	2 500 2 040 1 580 1 130 669	1 420 1 350 1 260 1 130 944	3 090 3 050 2 980 2 880 2 700	M <sub>r</sub> 589 V <sub>r</sub> 947 L <sub>u</sub> 2 870 I <sub>x</sub> 445 S <sub>x</sub> 1 910	3 000 4 000 5 000 6 000 7 000	581 522 457 389 314	8 000 9 000 11 000 13 000 15 000	264 227 178 147 125
<b>W460X89</b> W18X60 b=192 t=17.7 d=463	2 610 2 130 1 650 1 180 700	994 939 881 821 733	936 889 840 779 696	861 823 774 718 652	2 500 2 040 1 580 1 130 669	1 330 1 270 1 180 1 070 892	2 880 2 830 2 770 2 680 2 520	M <sub>r</sub> 543 V <sub>r</sub> 866 L <sub>u</sub> 2 830 I <sub>x</sub> 410 S <sub>x</sub> 1 770	3 000 4 000 5 000 6 000 7 000	534 477 414 343 276	8 000 9 000 11 000 13 000 15 000	231 198 155 127 108
<b>W460X82</b> W18X55 b=191 t=16.0 d=460	2 610 2 130 1 650 1 180 700	929 874 818 760 678	872 826 778 723 644	799 763 718 665 600	2 500 2 040 1 580 1 130 669	1 230 1 170 1 100 991 832	2 630 2 590 2 540 2 460 2 320	M <sub>r</sub> 494 V <sub>r</sub> 812 L <sub>u</sub> 2 770 I <sub>x</sub> 370 S <sub>x</sub> 1 610	3 000 4 000 5 000 6 000 7 000	482 427 365 292 234	8 000 9 000 11 000 13 000 15 000	195 167 129 106 90.0

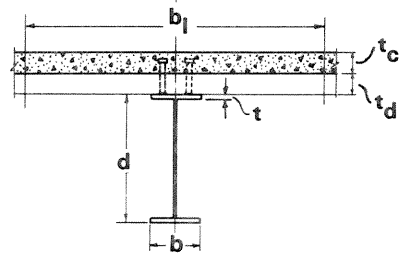
Note: \*25 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup> V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>



**COMPOSITE MEMBERS**  
**Trial Selection Tables**  
**Table 4.6**

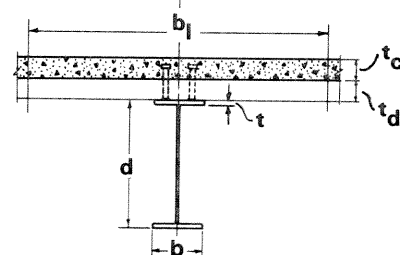
**76 mm Deck with 75 mm Slab**  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



**300W**  
**25 MPa**

**COMPOSITE MEMBERS**  
**Trial Selection Tables**  
**Table 4.6**

**76 mm Deck with 75 mm Slab**  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



**300W**  
**25 MPa**

Steel Shape#	Composite Beam*						Non-Composite Shape					
	b <sub>l</sub> (mm)	Factored Resistances			I <sub>t</sub> (10 <sup>6</sup> mm <sup>4</sup> )	S <sub>t</sub> (10 <sup>3</sup> mm <sup>3</sup> )	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections =						Q <sub>r</sub> (kN) for 100%	L'	M' <sub>r</sub> (kN-m)	L'	M' <sub>r</sub> (kN-m)
		100%	75%	50%								
<b>W360X39</b> W14X26 b=128 t=10.7 d=353	2 540 2 050 1 550 1 050 550	412 406 395 350 291	373 369 363 327 297	329 1 340 1 340 1 000 526	1 340 456 440 416 380 312	1 100 1 090 1 070 1 040 974	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	179 409 1 790 102 580	2 000 3 000 4 000 4 500 5 000	173 139 97.2 81.3 69.8	5 500 6 000 7 000 8 000 9 000	61.1 54.2 44.3 37.5 32.5
<b>W360X33</b> W14X22 b=127 t=8.5 d=349	2 540 2 040 1 550 1 050 550	347 342 334 310 253	312 310 305 271 288 238	274 1 130 1 130 1 130 1 000 526	385 372 311 355 897 326 272	923 911 1 130 1 130 873 823	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	146 361 1 720 82.7 474	2 000 3 000 4 000 4 500 5 000	139 108 70.3 58.4 49.7	5 500 6 000 7 000 8 000 9 000	43.2 38.1 30.8 25.9
<b>W310X129</b> W12X87 b=308 t=20.6 d=318	2 720 2 170 1 610 1 060 500	993 927 874 810 858 788 695	929 874 810 765 710 758 644	2 600 2 080 1 540 1 010 478	1 050 978 3 200 884 758 570	3 260 3 200 2 940 2 630	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	583 742 5 580 308 1 940	6 000 6 500 7 000 7 500 8 000	573 562 550 539 527	8 500 9 000 9 500 10 000	515 504 492 481
<b>W310X118</b> W12X79 b=307 t=18.7 d=314	2 720 2 170 1 610 1 060 500	925 860 808 746 703 703 635	862 808 746 703 1 540 650 586	2 600 2 080 1 540 1 010 478	964 902 2 980 818 2 830 2 690 2 410	2 980 2 920 5 390 2 750 1 750	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	526 666 5 390 275 1 750	6 000 6 500 7 000 7 500 8 000	513 501 490 478 467	8 500 9 000 9 500 10 000	455 444 432 421
<b>W310X107</b> W12X72 b=306 t=17.0 d=311	2 720 2 170 1 610 1 060 500	863 799 749 749 687 687 582	802 749 749 687 647 638 561	2 600 2 080 1 540 1 010 478	889 834 2 660 2 590 2 470 2 220	2 710 2 660 2 590 2 470 2 220	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	478 604 5 220 248 1 590	6 000 6 500 7 000 7 500 8 000	461 450 438 427 415	8 500 9 000 9 500 10 000	404 393 381 370
<b>W310X86</b> W12X58 b=254 t=16.3 d=310	2 670 2 130 1 590 1 040 500	750 688 640 581 543 559 486	692 640 581 543 1 520 498 441	2 550 2 040 1 520 1 010 478	752 710 2 180 2 130 2 040 1 850	2 220 2 180 2 130 2 040 1 850	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	383 503 4 250 199 1 280	5 000 5 500 6 000 6 500 7 000	367 355 344 332 320	7 500 8 000 8 500 9 000 9 500	309 297 285 273 262
<b>W310X79</b> W12X53 b=254 t=14.6 d=306	2 670 2 130 1 590 1 040 500	707 647 600 548 504 519 447	650 600 541 504 1 520 494 402	2 550 2 040 1 520 1 010 478	691 654 2 000 1 950 1 870 1 700	2 030 2 000 1 950 1 870 1 700	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	346 480 4 140 177 1 160	5 000 5 500 6 000 6 500 7 000	327 316 305 293 282	7 500 8 000 8 500 9 000 9 500	270 258 247 235 221
<b>W310X74</b> W12X50 b=205 t=16.3 d=310	2 620 2 090 1 560 1 030 500	682 623 576 518 481 498 424	626 576 518 481 1 490 473 404	2 510 2 000 1 490 985 505 478	662 627 1 880 1 840 1 760 1 600	1 910 1 880 1 840 1 760 1 600	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	321 519 3 380 165 1 060	4 000 5 000 6 000 6 500 7 000	307 282 258 245 233	7 500 8 000 8 500 9 000 9 500	221 206 192 179 168

Note: \*25 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b-mm d-mm M<sub>r</sub>-kN-m L<sub>u</sub>-mm  
t-mm V<sub>r</sub>-kN

I<sub>x</sub>-10<sup>6</sup>mm<sup>4</sup>  
S<sub>x</sub>-10<sup>3</sup>mm<sup>3</sup>

Steel Shape#	Composite Beam*						Non-Composite Shape					
	b <sub>l</sub> (mm)	Factored Resistances			I <sub>t</sub> (10 <sup>6</sup> mm <sup>4</sup> )	S <sub>t</sub> (10 <sup>3</sup> mm <sup>3</sup> )	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections =						Q <sub>r</sub> (kN) for 100%	L'	M' <sub>r</sub> (kN-m)	L'	M' <sub>r</sub> (kN-m)
		100%	75%	50%								
<b>W310X67</b> W12X45 b=204 t=14.6 d=306	2 620 2 090 1 560 1 030 500	619 578 533 499 2 300	566 533 476 499	499 2 300	599 568 1 690	1 720 1 690	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	286 463 3 280 145 949	4 000 5 000 6 000 6 500 7 000	270 246 222 210 198	7 500 8 000 8 500 9 000 9 500	184 169 157 147 138
<b>W310X60</b> W12X40 b=203 t=13.1 d=303	2 620 2 090 1 560 1 030 500	557 537 493 445 2 050	506 493 438	445 2 050	542 516 1 520	1 540 1 520	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	254 405 3 200 129 849	4 000 5 000 6 000 6 500 7 000	237 214 191 179 166	7 500 8 000 8 500 9 000	151 139 129 120 112
<b>W310X52</b> W12X35 b=167 t=13.2 d=317	2 580 2 060 1 540 1 020 500	508 496 454 401 1 800	461 454 401	405 1 800	511 488 1 360	1 380 1 360	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	226 429 2 570 118 747	3 000 4 000 5 000 5 500 6 000	216 189 162 146 130	6 500 7 000 7 500 8 000 8 500	116 106 96.8 89.4 83.0
<b>W310X45</b> W12X30 b=166 t=11.2 d=313	2 580 2 060 1 540 1 020 500	437 427 388 342 1 540	393 388 344 342	344 1 540	442 424 1 170	1 190 1 170	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	191 368 2 490 99.2 634	3 000 4 000 5 000 5 500 6 000	180 155 128 111 98.2	6 500 7 000 7 500 8 000 8 500	87.8 79.3 72.4 66.5 61.6
<b>W310X39</b> W12X26 b=165 t=9.7 d=310	2 580 2 060 1 540 1 020 500	381 374 338 296 1 330	342 338 296	298 1 330	389 374 1 020	1 030 1 020	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	165 320 2 440 85.1 549	3 000 4 000 5 000 5 500 6 000	153 130 103 88.5 77.7	6 500 7 000 7 500 8 000 8 500	69.1 62.2 56.5 51.8 47.8
<b>W250X101</b> W10X68 b=257 t=19.6 d=264	2 670 2 130 1 590 1 040 500	746 683 634 573 2 550	686 634 573	611 2 550	679 635 2 290	2 330 2 290	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	378 560 4 950 164 1 240	5 000 5 500 6 000 6 500 7 000	377 369 361 354 346	7 500 8 000 8 500	338 330 323
<b>W250X89</b> W10X60 b=256 t=17.3 d=260	2 670 2 130 1 590 1 040 500	689 627 579 519 2 550	631 579 519	557 2 550	611 574 2 030	2 070 2 030	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	332 496 4 690 143 1 100	5 000 5 500 6 000 6 500 7 000	327 320 312 304 296	7 500 8 000 8 500	289 281 273
<b>W250X80</b> W10X54 b=255 t=15.6 d=256	2 670 2 130 1 590 1 040 500	642 582 535 476 2 550	585 535 476	513 2 550	553 522 1 830	1 860 1 830	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	294 429 4 520 126 982	5 000 5 500 6 000 6 500 7 000	287 280 272 265 257	7 500 8 000 8 500	249 242 234

Note: \*25 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

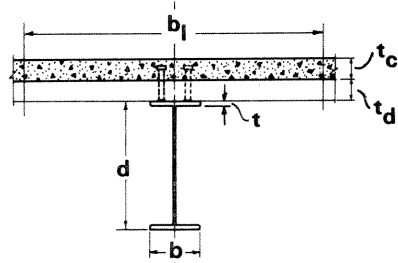
Units: b-mm d-mm M<sub>r</sub>-kN-m L<sub>u</sub>-mm  
t-mm V<sub>r</sub>-kN

I<sub>x</sub>-10<sup>6</sup>mm<sup>4</sup>  
S<sub>x</sub>-10<sup>3</sup>mm<sup>3</sup>



**COMPOSITE MEMBERS**  
**Trial Selection Tables**  
**Table 4.6**

**76 mm Deck with 75 mm Slab**  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



**300W**  
**25 MPa**

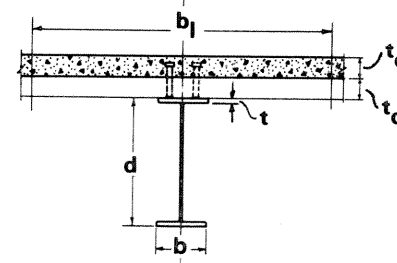
Steel Shape#	Composite Beam*							Non-Composite Shape					
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN) for 100%				L' mm	M <sub>r'</sub> kN-m	L' mm	M <sub>r'</sub> kN-m	
		100%	75%	50%									
<b>W250X73</b> W10X49 b=254 t=14.2 d=253	2 670 2 130 1 590 1 040 500	603 547 486 422 356	547 501 450 397 340	477 444 406 368 319	2 510 2 040 1 520 994 478	508 481 442 384 288	1 700 1 670 1 630 1 560 1 410	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	266 388 4 390 113 891	5 000 5 500 6 000 6 500 7 000	257 250 242 235 227	7 500 8 000 8 500 205	220 212 205
<b>W250X67</b> W10X45 b=204 t=15.7 d=257	2 620 2 090 1 560 1 030 500	565 523 463 400 335	512 478 428 376 319	445 421 384 346 297	2 310 2 000 1 490 985 478	481 456 420 367 277	1 580 1 550 1 510 1 450 1 310	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	243 408 3 570 104 806	4 000 4 500 5 000 5 500 6 000	237 229 221 213 205	6 500 7 000 7 500 8 000 205	197 189 181 174
<b>W250X58</b> W10X39 b=203 t=13.5 d=252	2 620 2 090 1 560 1 030 500	495 479 421 359 296	444 435 386 336 281	384 380 344 307 261	2 000 2 000 1 490 985 478	421 400 371 327 249	1 370 1 350 1 320 1 260 1 150	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	208 359 3 410 87.3 693	4 000 4 500 5 000 5 500 6 000	199 191 184 176 168	6 500 7 000 7 500 8 000 137	160 153 145 137
<b>W250X49</b> W10X33 b=202 t=11.0 d=247	2 620 2 090 1 560 1 030 500	421 410 378 318 256	375 369 344 295 242	322 319 303 267 223	1 690 1 690 1 490 985 478	358 342 319 284 219	1 150 1 140 1 110 1 070 985	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	171 326 3 240 70.6 572	4 000 4 500 5 000 5 500 6 000	160 153 146 138 130	6 500 7 000 7 500 8 000 130	123 115 106 97.2
<b>W250X45</b> W10X30 b=148 t=13.0 d=266	2 560 2 050 1 530 1 020 500	402 393 371 314 252	359 354 339 291 238	309 307 298 263 218	1 540 1 540 1 460 975 478	360 344 322 289 225	1 090 1 070 1 050 1 020 935	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	163 360 2 360 71.1 534	3 000 3 500 4 000 4 500 5 000	151 142 132 122 112	5 500 6 000 6 500 7 000 7 500	101 90.6 82.2 75.2 69.3
<b>W250X39</b> W10X26 b=147 t=11.2 d=262	2 560 2 050 1 530 1 020 500	348 341 329 284 224	309 305 298 262 211	265 263 260 234 193	1 330 1 330 1 330 975 478	313 300 282 255 202	941 928 910 881 817	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	139 308 2 280 60.1 459	3 000 3 500 4 000 4 500 5 000	126 117 108 98.6 88.0	5 500 6 000 6 500 7 000 7 500	77.5 69.2 62.5 57.0 52.4
<b>W250X33</b> W10X22 b=146 t=9.1 d=258	2 560 2 050 1 530 1 020 500	296 291 283 256 197	261 259 254 234 185	223 222 220 207 168	1 130 1 130 1 130 975 478	267 257 243 221 178	799 788 772 749 699	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	114 280 2 180 48.9 379	3 000 3 500 4 000 4 500 5 000	102 93.1 84.0 74.1 63.6	5 500 6 000 6 500 7 000 7 500	55.6 49.4 44.4 40.3 36.9
<b>W200X86</b> W8X58 b=209 t=20.6 d=222	2 630 2 090 1 560 1 030 500	617 555 492 427 356	559 507 455 401 339	486 447 409 368 318	2 510 2 000 1 490 985 478	485 454 412 352 257	1 840 1 800 1 750 1 660 1 470	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	265 514 4 620 94.7 853	5 000 5 500 6 000 6 500 7 000	261 256 251 245 240	7 500 8 000	235 230

Note: \*25 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
t—mm V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>

**COMPOSITE MEMBERS**  
**Trial Selection Tables**  
**Table 4.6**

**76 mm Deck with 75 mm Slab**  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



**300W**  
**25 MPa**

Steel Shape#	Composite Beam*							Non-Composite Shape					
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN) for 100%				L' mm	M <sub>r'</sub> kN-m	L' mm	M <sub>r'</sub> kN-m	
		100%	75%	50%									
<b>W200X71</b> W8X48 b=206 t=17.4 d=216	2 620 2 090 1 560 1 030 500	547 492 431 368 302	492 446 395 343 288	422 388 351 313 268	2 460 2 000 1 490 985 478	409 385 353 305 225	1 530 1 500 1 460 1 390 1 250	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	217 393 4 150 76.6 709	5 000 5 500 6 000 6 500 7 000	208 203 198 193 188	7 500 8 000	183 178
<b>W200X59</b> W8X40 b=205 t=14.2 d=210	2 620 2 090 1 560 1 030 500	460 441 382 321 258	409 397 348 297 244	348 342 305 269 226	2 040 2 000 1 490 985 478	345 326 301 263 197	1 280 1 250 1 220 1 170 1 060	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	176 341 3 780 61.1 582	4 000 4 500 5 000 5 500 6 000	174 169 164 159 154	6 500 7 000 7 500	149 144 139
<b>W200X52</b> W8X35 b=204 t=12.6 d=206	2 620 2 090 1 560 1 030 500	408 396 354 294 232	361 354 321 271 220	305 302 279 243 202	1 800 1 800 1 490 985 478	306 291 270 238 180	1 130 1 110 1 080 1 040 948	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	154 290 3 620 52.7 512	4 000 4 500 5 000 5 500 6 000	150 145 140 135 131	6 500 7 000 7 500	126 121 116
<b>W200X46</b> W8X31 b=203 t=11.0 d=203	2 620 2 090 1 560 1 030 500	362 353 330 271 209	318 313 297 248 198	268 265 256 220 182	1 580 1 580 1 490 985 478	273 260 242 215 164	998 982 960 924 847	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	134 260 3 460 45.5 448	4 000 4 500 5 000 5 500 6 000	129 124 119 114 109	6 500 7 000 7 500	105 99.8 94.9
<b>W200X42</b> W8X28 b=166 t=11.8 d=205	2 580 2 060 1 540 1 020 500	332 324 311 256 196	291 287 279 234 185	245 243 239 206 168	1 430 1 430 1 430 975 478	253 242 226 201 156	910 895 875 844 776	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	120 263 2 850 40.9 399	3 000 3 500 4 000 4 500 5 000	119 114 109 104 98.6	5 500 6 000 6 500 7 000	93.5 88.4 83.4 77.7
<b>W200X36</b> W8X24 b=165 t=10.2 d=201	2 580 2 060 1 540 1 020 500	288 282 272 235 175	251 247 242 213 164	210 208 206 186 149	1 240 1 240 1 240 975 478	220 211 198 178 140	789 776 759 734 679	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	103 222 2 730 34.4 342	3 000 3 500 4 000 4 500 5 000	100 95.3 90.4 85.5 80.5	5 500 6 000 6 500	75.5 70.6 64.7
<b>W200X31</b> W8X21 b=134 t=10.2 d=210	2 550 2 040 1 530 1 010 500	259 254 247 223 165	225 223 218 202 154	188 187 185 175 139	1 080 1 080 1 080 966 478	204 196 185 168 134	703 691 677 655 609	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	90.4 240 2 150 31.4 299	3 000 3 500 4 000 4 500 5 000	81.1 75.3 69.5 63.6 57.0	5 500 6 000	50.6 45.6
<b>W200X27</b> W8X18 b=133 t=8.4 d=207	2 550 2 040 1 520 1 010 500	220 217 211 200 148	191 189 186 180 137	159 158 157 154 122	915 915 915 915 478	175 169 160 146 118	598 589 577 559 523	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	75.3 214 2 050 25.8 249	3 000 3 500 4 000 4 500 5 000	65.4 59.7 54.0 47.5 41.2	5 500 6 000	36.4 32.6

Note: \*25 MPa, 2300 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
t—mm V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>

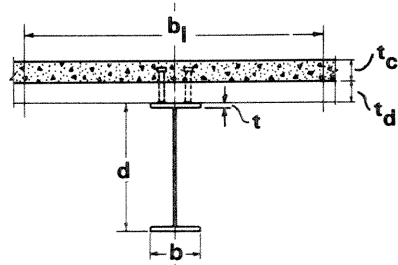






**COMPOSITE MEMBERS**  
Trial Selection Tables  
Table 4.7

51 mm Deck with 85 mm Slab  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



300W  
25 MPa

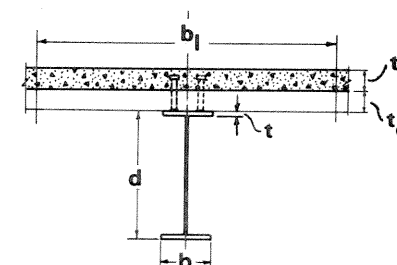
Steel Shape#	Composite Beam*						Non-Composite Shape						
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN) for				L' mm	M <sub>r</sub> ' kN-m	L' mm	M <sub>r</sub> ' kN-m	
		100%	75%	50%	100%								
<b>W360X39</b> W14X26 b=128 t=10.7 d=353	2 300 1 870 1 430 990 550	389 382 371 337 289	356 352 346 319 275	318 316 313 294 251	1 340 1 340 1 340 1 070 596	392 376 354 321 266	1 020 1 000 985 955 897	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	179 409 1 790 102 580	2 000 3 000 4 000 4 500 5 000	173 139 97.2 81.3 69.8	5 500 6 000 7 000 8 000 9 000	61.1 54.2 44.3 37.5 32.5
<b>W360X33</b> W14X22 b=127 t=8.5 d=349	2 300 1 860 1 430 990 550	328 323 315 297 250	299 296 291 280 238	265 264 262 255 217	1 130 1 130 1 130 1 070 596	332 320 303 277 232	855 843 828 804 758	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	146 361 1 720 82.7 474	2 000 3 000 4 000 4 500 5 000	139 108 70.3 58.4 49.7	5 500 6 000 7 000 8 000	43.2 38.1 30.8 25.9
<b>W310X129</b> W12X87 b=308 t=20.6 d=318	2 480 1 990 1 490 1 000 500	950 894 835 776 697	900 853 803 750 675	833 798 758 708 648	2 690 2 160 2 160 1 080 542	868 808 731 634 500	2 980 2 920 2 820 2 680 2 440	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	583 742 5 580 308 1 940	6 000 6 500 7 000 7 500 8 000	573 562 550 539 527	8 500 9 000 9 500 10 000	515 504 492 481
<b>W310X118</b> W12X79 b=307 t=18.7 d=314	2 480 1 990 1 490 1 000 500	882 827 769 711 637	833 786 738 695 648	768 733 695 648 589	2 690 2 160 2 160 1 080 542	800 746 676 587 461	2 720 2 660 2 580 2 460 2 240	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	526 666 5 390 275 1 750	6 000 6 500 7 000 7 500 8 000	513 501 490 478 467	8 500 9 000 9 500 10 000	455 444 432 421
<b>W310X107</b> W12X72 b=306 t=17.0 d=311	2 480 1 990 1 490 1 000 500	819 766 709 652 584	773 727 679 631 564	709 674 639 595 538	2 690 2 160 2 160 1 080 542	740 691 628 546 428	2 490 2 440 2 360 2 250 2 060	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	478 604 5 220 248 1 590	6 000 6 500 7 000 7 500 8 000	461 450 438 427 415	8 500 9 000 9 500 10 000	404 393 381 370
<b>W310X86</b> W12X58 b=254 t=16.3 d=310	2 430 1 950 1 470 980 500	706 655 602 546 486	662 618 573 535 496	601 568 535 496 444	2 630 2 110 2 110 1 590 542	628 590 540 470 370	2 040 2 000 1 950 1 860 1 710	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	383 503 4 250 199 1 280	5 000 5 500 6 000 6 500 7 000	367 355 344 332 320	7 500 8 000 8 500 9 000 9 500	309 297 285 273 262
<b>W310X79</b> W12X53 b=254 t=14.6 d=306	2 430 1 950 1 470 980 500	663 613 561 506 447	621 578 533 495 457	561 528 495 457 405	2 630 2 110 2 110 1 590 542	578 544 499 435 342	1 870 1 830 1 780 1 710 1 570	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	346 480 4 140 177 1 160	5 000 5 500 6 000 6 500 7 000	327 316 305 293 282	7 500 8 000 8 500 9 000 9 500	270 258 247 235 221
<b>W310X74</b> W12X50 b=205 t=16.3 d=310	2 380 1 910 1 440 970 500	637 590 539 485 425	596 554 510 465 407	537 505 472 434 382	2 560 2 070 2 070 1 050 542	554 521 479 419 330	1 760 1 720 1 680 1 610 1 470	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	321 519 3 380 165 1 060	4 000 5 000 6 000 6 500 7 000	307 282 258 245 233	7 500 8 000 8 500 9 000 9 500	221 206 192 179 168

Note: \*25 MPa, 1850 kg/m<sup>3</sup> Concrete. #G40.21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
t—mm V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>

**COMPOSITE MEMBERS**  
Trial Selection Tables  
Table 4.7

51 mm Deck with 85 mm Slab  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



300W  
25 MPa

Steel Shape#	Composite Beam*						Non-Composite Shape						
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN) for				L' mm	M <sub>r</sub> ' kN-m	L' mm	M <sub>r</sub> ' kN-m	
		100%	75%	50%	100%								
<b>W310X67</b> W12X45 b=204 t=14.6 d=306	2 380 1 910 1 440 970 500	577 545 495 443 386	535 511 468 423 369	480 463 431 395 346	2 300 2 070 1 560 1 050 542	502 474 437 384 302	1 580 1 550 1 510 1 450 1 330	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	286 463 3 280 145 949	4 000 5 000 6 000 6 500 7 000	270 246 222 210 198	7 500 8 000 8 500 9 000 9 500	184 169 157 147 138
<b>W310X60</b> W12X40 b=203 t=13.1 d=303	2 380 1 910 1 440 970 500	520 503 455 404 350	479 470 429 385 335	428 423 393 359 313	2 050 2 050 1 560 1 050 542	456 432 399 353 279	1 420 1 390 1 360 1 310 1 210	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	254 405 3 200 129 849	4 000 5 000 6 000 6 500 7 000	237 214 191 179 166	7 500 8 000 8 500 9 000 9 500	151 139 129 120 112
<b>W310X52</b> W12X35 b=167 t=13.2 d=317	2 340 1 880 1 420 960 500	476 463 429 380 327	437 430 403 361 312	390 386 368 335 290	1 800 1 800 1 540 1 040 542	433 411 382 339 270	1 270 1 250 1 220 1 180 1 090	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	226 429 2 570 118 747	3 000 4 000 5 000 5 500 6 000	216 189 162 146 130	6 500 7 000 7 500 8 000 8 500	116 106 96.8 89.4 83.0
<b>W310X45</b> W12X30 b=166 t=11.2 d=313	2 340 1 880 1 420 960 500	410 400 384 336 286	374 369 360 318 273	332 329 325 294 253	1 540 1 540 1 540 1 040 542	376 359 335 299 240	1 090 1 080 1 050 1 020 945	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	191 368 2 490 99.2 634	3 000 4 000 5 000 5 500 6 000	180 155 128 111 98.2	6 500 7 000 7 500 8 000 8 500	87.8 79.3 72.4 66.5 61.6
<b>W310X39</b> W12X26 b=165 t=9.7 d=310	2 340 1 880 1 420 960 500	358 351 339 304 254	325 321 315 286 244	287 286 283 263 225	1 330 1 330 1 330 1 040 542	332 317 298 268 217	954 940 921 892 832	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	165 320 2 440 85.1 549	3 000 4 000 5 000 5 500 6 000	153 130 103 88.5 77.7	6 500 7 000 7 500 8 000 8 500	69.1 62.2 56.5 51.8 47.8
<b>W250X101</b> W10X68 b=257 t=19.6 d=264	2 430 1 950 1 470 980 500	703 651 596 538 476	657 612 565 517 459	594 560 525 485 436	2 630 2 110 1 590 1 060 542	554 516 468 402 310	2 110 2 060 2 000 1 890 1 710	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	378 560 4 950 164 1 240	5 000 5 500 6 000 6 500 7 000	377 369 361 354 346	7 500 8 000 8 500	338 330 323
<b>W250X89</b> W10X60 b=256 t=17.3 d=260	2 430 1 950 1 470 980 500	646 594 541 485 426	601 557 512 464 410	540 507 473 436 388	2 630 2 110 1 590 1 060 542	500 467 425 366 283	1 880 1 840 1 780 1 700 1 540	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	332 496 4 690 143 1 100	5 000 5 500 6 000 6 500 7 000	327 320 312 304 296	7 500 8 000 8 500	289 281 273
<b>W250X80</b> W10X54 b=255 t=15.6 d=256	2 430 1 950 1 470 980 500	599 549 497 441 385	556 513 468 422 371	496 463 430 395 351	2 630 2 110 1 590 1 060 542	454 426 388 336 260	1 690 1 660 1 610 1 530 1 390	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	294 429 4 520 126 982	5 000 5 500 6 000 6 500 7 000	287 280 272 265 257	7 500 8 000 8 500	249 242 234

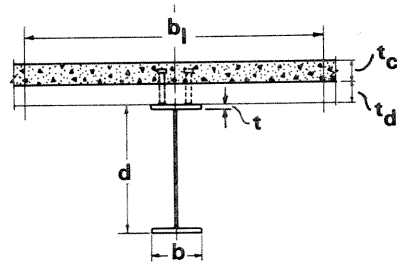
Note: \*25 MPa, 1850 kg/m<sup>3</sup> Concrete. #G40.21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
t—mm V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>



**COMPOSITE MEMBERS**  
Trial Selection Tables  
Table 4.8

76 mm Deck with 85 mm Slab  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



300W  
25 MPa

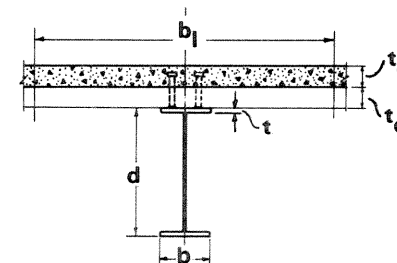
Steel Shape#	Composite Beam*							Non-Composite Shape						
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition					
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN)				L'	M' <sub>r</sub>	L'	M' <sub>r</sub>		
		100%	75%	50%	100%									
<b>WWF700X151</b> b=300 t=22.0 d=700	2 880 2 410 1 940 1 470 1 000	2 170 2 100 2 030 1 960 1 860	2 090 2 040 1 980 1 900 1 800	1 990 1 940 1 880 1 800 1 710	3 120 2 610 3 530 3 250 1 080	3 950 3 760 6 440 6 290 6 060	6 650 6 560 6 440 6 290 6 060	M <sub>r</sub> 1 480 V <sub>r</sub> 846 L <sub>u</sub> 4 500 I <sub>x</sub> 1 740 S <sub>x</sub> 4 980	6 000 9 000 10 000 11 000 12 000	1 330 942 797 688 605	14 000 16 000 18 000 20 000 22 000	485 404 347 303 270		
<b>WWF700X141</b> b=300 t=20.0 d=700	2 880 2 410 1 940 1 470 1 000	2 070 2 000 1 940 1 870 1 760	1 990 1 940 1 880 1 800 1 700	1 890 1 840 1 780 1 700 1 610	3 120 2 610 3 370 3 100 1 080	3 760 3 580 6 070 5 920 5 710	6 260 6 180 6 070 5 920 5 710	M <sub>r</sub> 1 380 V <sub>r</sub> 846 L <sub>u</sub> 4 420 I <sub>x</sub> 1 620 S <sub>x</sub> 4 620	6 000 9 000 10 000 11 000 12 000	1 220 831 700 602 527	14 000 16 000 18 000 20 000 22 000	420 348 297 259 230		
<b>W610X155</b> W24X104 b=324 t=19.0 d=611	2 900 2 400 1 900 1 400 900	1 980 1 910 1 840 1 750 1 610	1 900 1 840 1 770 1 650 1 560	1 790 1 730 1 650 1 520 1 470	3 140 2 600 2 760 2 500 975	3 130 2 960 5 740 5 560 2 180	5 970 5 870 5 740 5 560 5 290	M <sub>r</sub> 1 280 V <sub>r</sub> 1 380 L <sub>u</sub> 4 740 I <sub>x</sub> 1 290 S <sub>x</sub> 4 220	6 000 9 000 10 000 11 000 12 000	1 180 886 762 659 579	13 000 14 000 16 000 18 000 20 000	516 465 388 333 291		
<b>W610X140</b> W24X94 b=230 t=22.2 d=617	2 810 2 330 1 850 1 380 900	1 840 1 770 1 700 1 600 1 470	1 760 1 700 1 620 1 520 1 410	1 640 1 570 1 500 1 410 1 320	3 050 2 530 2 000 2 300 975	2 870 2 720 2 530 4 980 4 720	5 360 5 260 5 140 4 980 4 720	M <sub>r</sub> 1 120 V <sub>r</sub> 1 440 L <sub>u</sub> 3 320 I <sub>x</sub> 1 120 S <sub>x</sub> 3 630	5 000 6 000 7 000 8 000 9 000	946 829 695 573 486	11 000 13 000 15 000 17 000 19 000	373 303 255 221 195		
<b>W610X125</b> W24X84 b=229 t=19.6 d=612	2 810 2 330 1 850 1 380 900	1 670 1 600 1 530 1 450 1 330	1 590 1 430 1 350 1 270 1 180	1 490 1 430 1 350 1 270 1 180	3 050 2 530 2 000 1 500 975	2 610 2 470 4 610 4 460 4 240	4 790 4 710 4 610 4 460 4 240	M <sub>r</sub> 991 V <sub>r</sub> 1 300 L <sub>u</sub> 3 250 I <sub>x</sub> 985 S <sub>x</sub> 3 220	5 000 6 000 7 000 8 000 9 000	821 708 575 470 396	11 000 13 000 15 000 17 000 19 000	301 243 204 176 155		
<b>W610X113</b> W24X76 b=228 t=17.3 d=608	2 800 2 330 1 850 1 380 900	1 540 1 470 1 410 1 350 1 210	1 470 1 310 1 240 1 170 1 080	1 370 1 310 1 240 1 170 1 080	3 030 2 530 2 000 1 500 975	2 390 2 270 4 180 4 060 3 860	4 340 4 270 4 180 4 060 3 860	M <sub>r</sub> 888 V <sub>r</sub> 1 210 L <sub>u</sub> 3 180 I <sub>x</sub> 875 S <sub>x</sub> 2 880	5 000 6 000 7 000 8 000 9 000	719 610 481 391 328	11 000 13 000 15 000 17 000 19 000	247 198 166 142 125		
<b>W610X101</b> W24X68 b=228 t=14.9 d=603	2 800 2 330 1 850 1 380 900	1 420 1 350 1 290 1 230 1 110	1 250 1 200 1 130 1 060 971	1 250 1 200 1 130 1 060 971	3 030 2 530 2 000 1 500 975	2 180 2 070 3 840 3 760 3 470	3 900 3 840 3 760 3 650 3 470	M <sub>r</sub> 783 V <sub>r</sub> 1 130 L <sub>u</sub> 3 110 I <sub>x</sub> 764 S <sub>x</sub> 2 530	5 000 6 000 7 000 8 000 9 000	619 512 396 320 267	11 000 13 000 15 000 17 000 19 000	199 158 132 113 98.4		
<b>W530X123</b> W21X83 b=212 t=21.2 d=544	2 790 2 290 1 790 1 300 800	1 500 1 430 1 360 1 270 1 150	1 330 1 270 1 210 1 120 1 020	1 330 1 270 1 210 1 120 1 020	3 020 2 480 1 940 1 410 867	2 120 4 240 4 130 3 980 3 740	4 310 4 240 4 130 3 980 3 740	M <sub>r</sub> 867 V <sub>r</sub> 1 270 L <sub>u</sub> 3 100 I <sub>x</sub> 761 S <sub>x</sub> 2 800	4 000 5 000 6 000 7 000 8 000	794 706 613 505 421	9 000 11 000 13 000 15 000 17 000	361 281 230 195 170		

Note: \*25 MPa, 1850 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
t—mm V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>

**COMPOSITE MEMBERS**  
Trial Selection Tables  
Table 4.8

76 mm Deck with 85 mm Slab  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



300W  
25 MPa

Steel Shape#	Composite Beam*							Non-Composite Shape						
	b <sub>1</sub> (mm)	Factored Resistances				I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition					
		M <sub>rc</sub> (kN-m) for Shear Connections=			Q <sub>r</sub> (kN)				L'	M' <sub>r</sub>	L'	M' <sub>r</sub>		
		100%	75%	50%	100%									
<b>W530X109</b> W21X73 b=211 t=18.8 d=539	2 790 2 290 1 790 1 300 800	1 370 1 300 1 230 1 150 1 040	1 290 1 240 1 170 1 080 984	1 200 1 150 1 080 1 010 919	3 020 2 480 1 940 1 410 867	1 920 1 820 1 690 1 520 1 290	3 840 3 780 3 690 3 560 3 350	M <sub>r</sub> 764 V <sub>r</sub> 1 110 L <sub>u</sub> 3 040 I <sub>x</sub> 667 S <sub>x</sub> 2 480	4 000 5 000 6 000 7 000 8 000	692 608 517 413 342	9 000 11 000 13 000 15 000 17 000	291 225 183 155 134		
<b>W530X101</b> W21X68 b=210 t=17.4 d=537	2 790 2 290 1 790 1 300 800	1 290 1 220 1 150 1 080 974	1 220 1 160 1 100 1 020 924	1 130 1 080 1 020 947 861	3 020 2 480 1 940 1 410 867	1 810 1 720 1 600 1 440 1 220	3 580 3 530 3 450 3 330 3 140	M <sub>r</sub> 707 V <sub>r</sub> 1 040 L <sub>u</sub> 2 990 I <sub>x</sub> 617 S <sub>x</sub> 2 300	4 000 5 000 6 000 7 000 8 000	635 553 462 365 301	9 000 11 000 13 000 15 000 17 000	255 196 159 134 116		
<b>W530X92</b> W21X62 b=209 t=15.6 d=533	2 790 2 290 1 790 1 300 800	1 210 1 140 1 070 1 000 901	1 140 1 080 1 020 945 853	1 050 1 000 945 875 791	3 020 2 480 1 940 1 410 867	1 670 1 590 1 480 1 340 1 130	3 280 3 220 3 150 3 050 2 880	M <sub>r</sub> 637 V <sub>r</sub> 969 L <sub>u</sub> 2 930 I <sub>x</sub> 552 S <sub>x</sub> 2 070	3 000 4 000 5 000 6 000 7 000	633 565 486 393 309	8 000 10 000 12 000 14 000 16 000	253 185 146 120 103		
<b>W530X82</b> W21X55 b=209 t=13.3 d=528	2 790 2 290 1 790 1 300 800	1 090 1 040 975 906 814	1 020 985 928 864 768	940 910 856 790 708	2 830 2 480 1 940 1 410 867	1 500 1 430 1 340 1 210 1 030	2 910 2 870 2 810 2 720 2 570	M <sub>r</sub> 559 V <sub>r</sub> 894 L <sub>u</sub> 2 860 I <sub>x</sub> 479 S <sub>x</sub> 1 810	3 000 4 000 5 000 6 000 7 000	551 487 412 321 251	8 000 10 000 12 000 14 000 16 000	204 148 115 94.8 80.5		
<b>W460X106</b> W18X71 b=194 t=20.6 d=469	2 770 2 250 1 740 1 220 700	1 210 1 140 1 060 984 868	1 140 1 080 1 010 932 825	1 040 992 931 858 773	3 000 2 440 1 890 1 320 759	1 510 1 420 1 310 1 160 952	3 380 3 320 3 230 3 100 2 870	M <sub>r</sub> 645 V <sub>r</sub> 1 050 L <sub>u</sub> 2 910 I <sub>x</sub> 488 S <sub>x</sub> 2 080	3 000 4 000 5 000 6 000 7 000	640 579 512 444 366	8 000 9 000 11 000 13 000 15 000	308 266 210 174 148		
<b>W460X97</b> W18X65 b=193 t=19.0 d=466	2 770 2 250 1 730 1 220 700	1 130 1 060 986 911 806	1 060 999 938 866 765	968 922 865 797 715	3 000 2 440 1 870 1 320 759	1 400 1 320 1 220 1 090 893	3 100 3 050 2 970 2 860 2 660	M <sub>r</sub> 589 V <sub>r</sub> 947 L <sub>u</sub> 2 870 I <sub>x</sub> 445 S <sub>x</sub> 1 910	3 000 4 000 5 000 6 000 7 000	581 522 457 389 314	8 000 9 000 11 000 13 000 15 000	264 227 178 147 125		
<b>W460X89</b> W18X60 b=192 t=17.7 d=463	2 770 2 250 1 730 1 220 700	1 070 1 000 928 854 757	1 000 941 881 814 718	910 866 814 749 668	3 000 2 440 1 870 1 320 759	1 310 1 240 1 150 1 030 844	2 890 2 840 2 770 2 670 2 490	M <sub>r</sub> 543 V <sub>r</sub> 866 L <sub>u</sub> 2 830 I <sub>x</sub> 410 S <sub>x</sub> 1 770	3 000 4 000 5 000 6 000 7 000	534 477 414 343 276	8 000 9 000 11 000 13 000 15 000	231 198 155 127 108		
<b>W460X82</b> W18X55 b=191 t=16.0 d=460	2 770 2 250 1 730 1 220 700	986 934 864 792 701	920 877 818 755 664	834 804 756 694 617	2 810 2 440 1 870 1 320 759	1 220 1 150 1 070 957 788	2 640 2 600 2 540 2 450 2 290	M <sub>r</sub> 494 V <sub>r</sub> 812 L <sub>u</sub> 2 770 I <sub>x</sub> 370 S <sub>x</sub> 1 610	3 000 4 000 5 000 6 000 7 000	482 427 365 292 234	8 000 9 000 11 000 13 000 15 000	195 167 129 106 90.0		

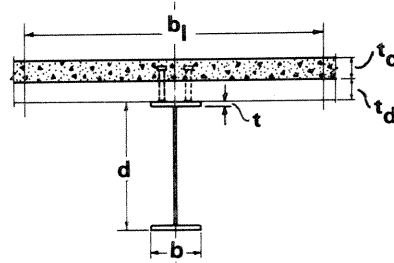
Note: \*25 MPa, 1850 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
t—mm V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>



**COMPOSITE MEMBERS**  
**Trial Selection Tables**  
**Table 4.8**

**76 mm Deck with 85 mm Slab**  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



**300W**  
**25 MPa**

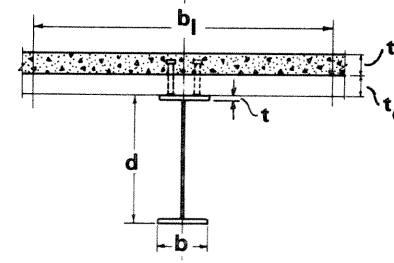
Steel Shape#	Composite Beam*						Non-Composite Shape						
	b <sub>1</sub> (mm)	Factored Resistances			Q <sub>r</sub> (kN)	I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections=							L' mm	M <sub>r'</sub> kN-m	L' mm	M <sub>r'</sub> kN-m	
		100%	75%	50%									
<b>W460X74</b> W18X50 b=190 t=14.5 d=457	2 770 2 250 1 730 1 220 700	902 872 803 732 648	837 817 758 699 613	757 745 700 642 567	2 550 2 440 1 870 1 320 759	1 120 1 060 990 889 734	2 410 2 370 2 320 2 240 2 100	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	445 733 2 730 333 1 460	3 000 4 000 5 000 6 000 7 000	433 380 320 249 198	8 000 9 000 10 000 12 000 14 000	164 140 122 96.9 80.6
<b>W460X67</b> W18X46 b=190 t=12.7 d=454	2 770 2 250 1 730 1 220 700	832 814 753 684 601	770 759 709 651 567	695 690 652 596 521	2 340 2 340 1 870 1 320 759	1 040 987 921 829 686	2 210 2 180 2 130 2 060 1 930	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	405 688 2 660 300 1 320	3 000 4 000 5 000 6 000 7 000	390 339 281 214 169	8 000 9 000 10 000 12 000 14 000	140 119 103 82.0 68.0
<b>W460X61</b> W18X41 b=189 t=10.8 d=450	2 770 2 250 1 730 1 220 700	747 732 693 625 547	688 680 651 596 514	619 616 596 542 469	2 100 2 100 1 870 1 320 759	932 890 833 753 625	1 970 1 940 1 900 1 840 1 730	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	354 650 2 580 259 1 150	3 000 4 000 5 000 6 000 7 000	336 288 231 172 135	8 000 9 000 10 000 12 000 14 000	111 93.9 81.3 64.1 53.0
<b>W410X85</b> W16X57 b=181 t=18.2 d=417	2 760 2 220 1 680 1 140 600	957 892 818 740 640	889 835 772 704 607	802 761 711 646 650	2 920 2 410 1 820 1 240 650	1 080 1 020 935 821 650	2 560 2 510 2 450 2 340 2 150	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	467 810 2 730 315 1 510	3 000 4 000 5 000 6 000 7 000	455 406 354 297 243	8 000 9 000 10 000 11 000 12 000	205 178 157 141 127
<b>W410X74</b> W16X50 b=180 t=16.0 d=413	2 760 2 220 1 680 1 140 600	853 817 745 670 578	789 762 701 637 547	708 691 644 584 508	2 580 2 410 1 820 1 240 650	971 918 848 749 594	2 270 2 240 2 180 2 090 1 930	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	408 714 2 670 275 1 330	3 000 4 000 5 000 6 000 7 000	394 348 297 239 194	8 000 9 000 10 000 11 000 12 000	163 140 124 110 99.8
<b>W410X67</b> W16X45 b=179 t=14.4 d=410	2 760 2 220 1 680 1 140 600	773 755 690 616 531	712 701 648 538 502	637 632 593 538 464	2 320 2 320 1 820 1 240 650	888 843 782 693 552	2 060 2 030 1 980 1 900 1 760	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	367 643 2 610 246 1 200	3 000 4 000 5 000 6 000 7 000	352 307 258 201 161	8 000 9 000 10 000 11 000 12 000	135 116 102 90.5 81.7
<b>W410X60</b> W16X40 b=178 t=12.8 d=407	2 750 2 220 1 680 1 140 600	686 672 632 559 480	629 621 590 530 454	561 557 537 488 419	2 050 2 050 1 820 1 240 650	798 761 708 632 506	1 830 1 800 1 760 1 700 1 570	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	321 558 2 580 216 1 060	3 000 4 000 5 000 6 000 7 000	306 264 217 165 131	8 000 9 000 10 000 11 000 12 000	109 93.2 81.4 72.2 65.0
<b>W410X54</b> W16X36 b=177 t=10.9 d=403	2 750 2 210 1 680 1 140 600	618 607 586 515 438	564 558 546 486 413	502 499 493 445 378	1 840 1 840 1 820 1 240 650	718 685 641 574 461	1 630 1 610 1 580 1 520 1 410	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	283 539 2 480 186 924	3 000 4 000 5 000 6 000 7 000	266 225 176 132 104	8 000 9 000 10 000 11 000 12 000	86.1 73.2 63.6 56.3 50.5

Note: \*25 MPa, 1850 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b-mm d-mm M<sub>r</sub>-kN-m L<sub>u</sub>-mm I<sub>x</sub>-10<sup>6</sup>mm<sup>4</sup> S<sub>x</sub>-10<sup>3</sup>mm<sup>3</sup>  
 t-mm V<sub>r</sub>-kN

**COMPOSITE MEMBERS**  
**Trial Selection Tables**  
**Table 4.8**

**76 mm Deck with 85 mm Slab**  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



**300W**  
**25 MPa**

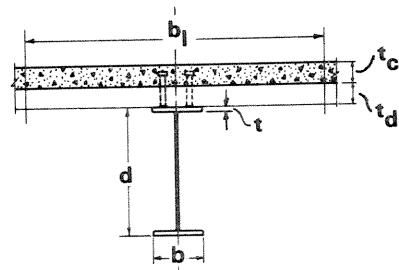
Steel Shape#	Composite Beam*						Non-Composite Shape						
	b <sub>1</sub> (mm)	Factored Resistances			Q <sub>r</sub> (kN)	I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections=							L' mm	M <sub>r'</sub> kN-m	L' mm	M <sub>r'</sub> kN-m	
		100%	75%	50%									
<b>W410X46</b> W16X31 b=140 t=11.2 d=403	2 720 2 190 1 660 1 130 600	540 531 517 465 391	491 486 478 436 367	435 433 429 398 333	1 590 1 590 1 590 1 220 650	633 606 569 512 415	1 410 1 390 1 370 1 320 1 230	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	239 503 1 930 156 773	2 000 3 000 4 000 5 000 6 000	236 195 142 99.9 76.4	7 000 8 000 9 000 10 000 11 000	61.7 51.8 44.6 39.2 35.0
<b>W410X39</b> W16X26 b=140 t=8.8 d=399	2 720 2 190 1 660 1 130 600	460 453 443 414 342	416 412 407 386 322	368 366 364 350 290	1 350 1 350 1 350 1 220 650	542 521 491 446 365	1 190 1 180 1 160 1 120 1 050	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	197 448 1 860 127 634	2 000 3 000 4 000 4 500 5 000	193 155 105 86.7 73.1	6 000 7 000 8 000 9 000 10 000	55.2 44.1 36.6 31.3 27.4
<b>W360X79</b> W14X53 b=205 t=16.8 d=354	2 780 2 220 1 670 1 110 550	817 767 693 615 526	751 712 649 584 500	668 640 594 540 467	2 730 2 410 1 810 1 200 596	827 779 716 624 480	2 210 2 170 2 120 2 020 1 840	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	386 593 3 270 227 1 280	4 000 5 000 6 000 7 000 7 500	364 331 298 264 244	8 000 8 500 9 000 10 000 11 000	225 209 195 172 154
<b>W360X72</b> W14X48 b=204 t=15.1 d=350	2 780 2 220 1 670 1 110 550	741 716 643 566 481	678 661 600 536 457	600 591 546 495 425	2 460 2 410 1 810 1 200 596	754 712 657 574 443	2 000 1 960 1 920 1 840 1 670	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	346 536 3 190 201 1 150	4 000 5 000 6 000 7 000 7 500	322 290 257 222 203	8 000 8 500 9 000 10 000 11 000	186 172 161 141 126
<b>W360X64</b> W14X43 b=203 t=13.5 d=347	2 780 2 220 1 660 1 110 550	667 650 594 519 439	607 597 552 490 417	536 531 499 452 386	2 200 2 200 1 800 1 200 596	685 649 600 528 409	1 790 1 770 1 720 1 660 1 520	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	308 476 3 110 178 1 030	4 000 5 000 6 000 7 000 7 500	283 252 220 183 167	8 000 8 500 9 000 10 000 11 000	153 141 131 115 102
<b>W360X57</b> W14X38 b=172 t=13.1 d=358	2 750 2 200 1 650 1 100 550	609 595 561 487 408	553 545 520 458 385	487 484 468 420 355	1 950 1 950 1 790 1 190 596	643 611 567 502 391	1 620 1 590 1 560 1 500 1 370	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	273 504 2 550 161 897	3 000 4 000 5 000 6 000 6 500	259 225 189 147 132	7 000 7 500 8 000 9 000 10 000	119 109 99.8 86.0 75.7
<b>W360X51</b> W14X34 b=171 t=11.6 d=355	2 750 2 200 1 650 1 100 550	546 535 517 449 372	494 488 478 421 352	434 432 427 385 322	1 740 1 740 1 740 1 190 596	580 553 516 459 360	1 450 1 420 1 390 1 340 1 240	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	241 455 2 500 141 796	3 000 4 000 5 000 6 000 6 500	227 195 159 121 108	7 000 7 500 8 000 9 000 10 000	97.0 88.3 81.0 69.5 60.9
<b>W360X45</b> W14X30 b=171 t=9.8 d=352	2 750 2 200 1 650 1 100 550	487 479 464 413 338	439 434 426 385 319	385 383 379 350 290	1 550 1 550 1 550 1 190 596	520 498 466 416 329	1 290 1 270 1 240 1 200 1 110	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	210 433 2 430 122 691	3 000 4 000 5 000 6 000 6 500	195 165 128 96.1 85.3	7 000 7 500 8 000 9 000 10 000	76.5 69.4 63.4 54.1 47.2

Note: \*25 MPa, 1850 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b-mm d-mm M<sub>r</sub>-kN-m L<sub>u</sub>-mm I<sub>x</sub>-10<sup>6</sup>mm<sup>4</sup> S<sub>x</sub>-10<sup>3</sup>mm<sup>3</sup>  
 t-mm V<sub>r</sub>-kN

**COMPOSITE MEMBERS**  
Trial Selection Tables  
Table 4.8

76 mm Deck with 85 mm Slab  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



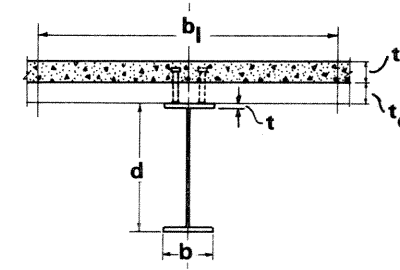
300W  
25 MPa

Steel Shape#	Composite Beam*						Non-Composite Shape						
	b <sub>1</sub> (mm)	Factored Resistances			I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition					
		M <sub>rc</sub> (kN-m) for Shear Connections=						Q <sub>r</sub> (kN) for 100%	L'	M' <sub>r</sub> kN-m	L'	M' <sub>r</sub> kN-m	
		100%	75%	50%									
<b>W360X39</b> W14X26 b=128 t=10.7 d=353	2 700 2 170 1 630 1 090 550	428 421 410 377 304	384 380 374 350 286	336 334 331 316 258	1 340 1 340 1 340 1 180 596	460 441 414 373 297	1 120 1 100 1 080 1 040 966	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	179 409 1 790 1 02 580	2 000 3 000 4 000 4 500 5 000	173 139 97.2 81.3 69.8	5 500 6 000 7 000 8 000 9 000	61.1 54.2 44.3 37.5 32.5
<b>W360X33</b> W14X22 b=127 t=8.5 d=349	2 700 2 160 1 630 1 090 550	359 355 347 332 265	321 319 315 306 249	280 279 277 273 224	1 130 1 130 1 130 1 130 596	390 375 355 322 260	937 924 906 879 819	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	146 361 1 720 82.7 474	2 000 3 000 4 000 4 500 5 000	139 108 70.3 58.4 49.7	5 500 6 000 7 000 8 000	43.2 38.1 30.8 25.9
<b>W310X129</b> W12X87 b=308 t=20.6 d=318	2 880 2 290 1 690 1 100 500	1 070 991 905 818 710	997 928 857 784 685	901 851 798 734 655	3 120 2 480 1 830 1 190 542	1 030 956 858 728 540	3 280 3 200 3 090 2 920 2 580	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	583 742 5 580 308 1 940	6 000 6 500 7 000 7 500 8 000	573 562 550 539 527	8 500 9 000 9 500 10 000	515 504 492 481
<b>W310X118</b> W12X79 b=307 t=18.7 d=314	2 880 2 290 1 690 1 100 500	1 000 923 838 752 650	929 862 792 734 626	835 785 734 674 596	3 120 2 480 1 830 1 190 542	951 884 795 676 499	2 990 2 930 2 830 2 670 2 370	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	526 666 5 390 275 1 750	6 000 6 500 7 000 7 500 8 000	513 501 490 478 467	8 500 9 000 9 500 10 000	455 444 432 421
<b>W310X107</b> W12X72 b=306 t=17.0 d=311	2 880 2 290 1 690 1 100 500	940 861 778 694 597	868 801 732 676 545	776 727 676 620 542	3 120 2 480 1 830 1 190 542	880 820 740 631 466	2 730 2 680 2 590 2 460 2 180	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	478 604 5 220 248 1 590	6 000 6 500 7 000 7 500 8 000	461 450 438 427 415	8 500 9 000 9 500 10 000	404 393 381 370
<b>W310X86</b> W12X58 b=254 t=16.3 d=310	2 830 2 250 1 670 1 080 500	816 748 670 587 499	748 692 626 558 478	661 620 571 519 451	2 970 2 440 1 810 1 170 542	748 701 638 546 406	2 240 2 200 2 140 2 030 1 820	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	383 503 4 250 199 1 280	5 000 5 500 6 000 6 500 7 000	367 355 344 332 320	7 500 8 000 8 500 9 000 9 500	309 297 285 273 262
<b>W310X79</b> W12X53 b=254 t=14.6 d=306	2 830 2 250 1 670 1 080 500	753 706 629 547 461	687 650 586 518 440	604 579 532 480 412	2 730 2 440 1 810 1 170 542	689 647 591 507 376	2 060 2 020 1 960 1 870 1 670	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	346 480 4 140 177 1 160	5 000 5 500 6 000 6 500 7 000	327 316 305 293 282	7 500 8 000 8 500 9 000 9 500	270 258 247 235 221
<b>W310X74</b> W12X50 b=205 t=16.3 d=310	2 780 2 210 1 640 1 070 500	717 681 605 526 439	653 626 562 497 417	573 556 509 457 389	2 560 2 400 1 780 1 160 542	660 621 567 489 364	1 940 1 900 1 850 1 760 1 580	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	321 519 3 380 165 1 060	4 000 5 000 6 000 6 500 7 000	307 282 258 245 233	7 500 8 000 8 500 9 000 9 500	221 206 192 179 168

Note: \*25 MPa, 1850 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel  
Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
t—mm V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>

**COMPOSITE MEMBERS**  
Trial Selection Tables  
Table 4.8

76 mm Deck with 85 mm Slab  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



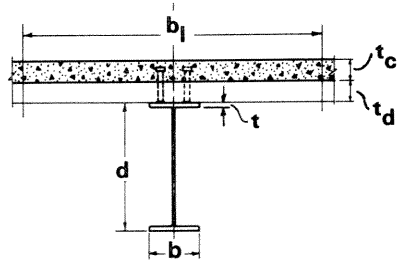
300W  
25 MPa

Steel Shape#	Composite Beam*						Non-Composite Shape						
	b <sub>1</sub> (mm)	Factored Resistances			I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition					
		M <sub>rc</sub> (kN-m) for Shear Connections=						Q <sub>r</sub> (kN) for 100%	L'	M' <sub>r</sub> kN-m	L'	M' <sub>r</sub> kN-m	
		100%	75%	50%									
<b>W310X67</b> W12X45 b=204 t=14.6 d=306	2 780 2 210 1 640 1 070 500	647 628 561 483 399	586 575 519 455 379	512 507 467 418 352	2 300 2 300 1 780 1 160 542	599 565 518 449 335	1 740 1 710 1 660 1 590 1 430	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	286 463 3 280 145 949	4 000 5 000 6 000 6 500 7 000	270 246 222 210 198	7 500 8 000 8 500 9 000 9 500	184 169 157 147 138
<b>W310X60</b> W12X40 b=203 t=13.1 d=303	2 780 2 210 1 640 1 070 500	581 566 521 444 364	523 515 480 416 346	456 452 429 382 320	2 050 2 050 1 780 1 160 542	543 514 474 414 310	1 560 1 540 1 500 1 440 1 300	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	254 405 3 200 129 849	4 000 5 000 6 000 6 500 7 000	237 214 191 179 166	7 500 8 000 8 500 9 000	151 139 129 120 112
<b>W310X52</b> W12X35 b=167 t=13.2 d=317	2 740 2 180 1 620 1 060 500	529 517 493 419 340	476 469 454 392 322	414 411 403 357 297	1 800 1 800 1 760 1 150 542	513 488 452 397 301	1 400 1 380 1 350 1 290 1 170	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	226 429 2 570 118 747	3 000 4 000 5 000 5 500 6 000	216 189 162 146 130	6 500 7 000 7 500 8 000 8 500	116 106 96.8 89.4 83.0
<b>W310X45</b> W12X30 b=166 t=11.2 d=313	2 740 2 180 1 620 1 060 500	454 445 431 376 299	406 401 393 349 284	352 350 347 316 260	1 540 1 540 1 540 1 150 542	446 425 396 351 269	1 200 1 190 1 160 1 120 1 020	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	191 368 2 490 99.2 634	3 000 4 000 5 000 5 500 6 000	180 155 128 111 98.2	6 500 7 000 7 500 8 000 8 500	87.8 79.3 72.4 66.5 61.6
<b>W310X39</b> W12X26 b=165 t=9.7 d=310	2 740 2 180 1 620 1 060 500	396 389 378 343 267	353 349 343 317 254	305 304 301 284 232	1 330 1 330 1 330 1 150 542	393 376 353 315 244	1 050 1 040 1 010 979 900	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	165 320 2 440 85.1 549	3 000 4 000 5 000 5 500 6 000	153 130 103 88.5 77.7	6 500 7 000 7 500 8 000 8 500	69.1 62.2 56.5 51.8 47.8
<b>W250X101</b> W10X68 b=257 t=19.6 d=264	2 830 2 250 1 670 1 080 500	823 745 664 579 489	752 686 619 549 469	660 612 562 509 442	3 070 2 440 1 810 1 170 542	674 626 564 475 344	2 360 2 300 2 220 2 090 1 840	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	378 560 4 950 164 1 240	5 000 5 500 6 000 6 500 7 000	377 369 361 354 346	7 500 8 000 8 500	338 330 323
<b>W250X89</b> W10X60 b=256 t=17.3 d=260	2 830 2 250 1 670 1 080 500	764 688 609 526 439	695 631 565 496 420	606 558 510 459 395	3 070 2 440 1 810 1 170 542	608 568 513 435 315	2 100 2 050 1 990 1 880 1 660	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	332 496 4 690 143 1 100	5 000 5 500 6 000 6 500 7 000	327 320 312 304 296	7 500 8 000 8 500	289 281 273
<b>W250X80</b> W10X54 b=255 t=15.6 d=256	2 830 2 250 1 670 1 080 500	691 641 564 482 399	624 586 521 453 381	541 514 467 417 357	2 750 2 440 1 810 1 170 542	553 518 470 400 291	1 890 1 850 1 790 1 700 1 510	M <sub>r</sub> V <sub>r</sub> L <sub>u</sub> I <sub>x</sub> S <sub>x</sub>	294 429 4 520 126 982	5 000 5 500 6 000 6 500 7 000	287 280 272 265 257	7 500 8 000 8 500	249 242 234

Note: \*25 MPa, 1850 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel  
Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
t—mm V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>

**COMPOSITE MEMBERS**  
**Trial Selection Tables**  
**Table 4.8**

**76 mm Deck with 85 mm Slab**  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



**300W**  
**25 MPa**

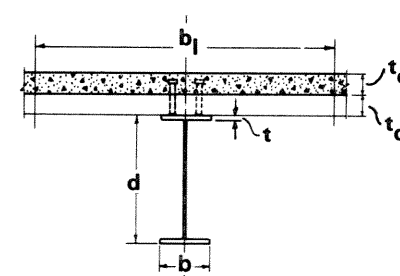
Steel Shape#	Composite Beam*						Non-Composite Shape					
	b <sub>1</sub> (mm)	Factored Resistances			I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections=						Q <sub>r</sub> (kN) for 100%	L'	M' <sub>r</sub> kN-m	L'	M' <sub>r</sub> kN-m
		100%	75%	50%								
<b>W250X73</b> W10X49 b=254 t=14.2 d=253	2 830 2 250 1 670 1 080 500	633 606 530 449 367	569 551 487 421 351	491 481 434 385 328	2 510 2 440 1 810 1 170 542	509 478 436 373 272	1 720 1 690 1 640 1 560 1 390	M <sub>r</sub> 266 V <sub>r</sub> 388 L <sub>u</sub> 4 390 I <sub>x</sub> 113 S <sub>x</sub> 891	5 000 5 500 6 000 6 500 7 000	257 250 242 235 227	7 500 8 000 8 500	220 212 205
<b>W250X67</b> W10X45 b=204 t=15.7 d=257	2 780 2 210 1 640 1 070 500	593 574 506 428 347	532 521 464 400 330	458 453 412 364 306	2 310 2 310 1 780 1 160 542	483 454 415 357 262	1 600 1 570 1 520 1 450 1 290	M <sub>r</sub> 243 V <sub>r</sub> 408 L <sub>u</sub> 3 570 I <sub>x</sub> 104 S <sub>x</sub> 806	4 000 4 500 5 000 5 500 6 000	237 229 221 213 205	6 500 7 000 7 500 8 000	197 189 181 174
<b>W250X58</b> W10X39 b=203 t=13.5 d=252	2 780 2 210 1 640 1 070 500	518 504 463 387 307	461 453 423 359 292	395 391 371 324 270	2 000 2 000 1 780 1 160 542	424 400 368 319 235	1 390 1 370 1 330 1 270 1 140	M <sub>r</sub> 208 V <sub>r</sub> 359 L <sub>u</sub> 3 410 I <sub>x</sub> 87.3 S <sub>x</sub> 693	4 000 4 500 5 000 5 500 6 000	199 191 184 176 168	6 500 7 000 7 500 8 000	160 153 145 137
<b>W250X49</b> W10X33 b=202 t=11.0 d=247	2 780 2 210 1 640 1 070 500	440 430 412 345 267	389 383 373 318 253	331 328 324 284 231	1 690 1 690 1 690 1 160 542	362 344 318 278 207	1 180 1 150 1 130 1 080 976	M <sub>r</sub> 171 V <sub>r</sub> 326 L <sub>u</sub> 3 240 I <sub>x</sub> 70.6 S <sub>x</sub> 572	4 000 4 500 5 000 5 500 6 000	160 153 146 138 130	6 500 7 000 7 500 8 000	123 115 106 97.2
<b>W250X45</b> W10X30 b=148 t=13.0 d=266	2 720 2 170 1 610 1 060 500	420 411 396 341 263	372 367 358 314 249	317 315 311 280 227	1 540 1 540 1 540 1 150 542	364 346 321 283 214	1 110 1 090 1 060 1 020 927	M <sub>r</sub> 163 V <sub>r</sub> 360 L <sub>u</sub> 2 360 I <sub>x</sub> 71.1 S <sub>x</sub> 534	3 000 3 500 4 000 4 500 5 000	151 142 132 122 112	5 500 6 000 6 500 7 000 7 500	101 90.6 82.2 75.2 69.3
<b>W250X39</b> W10X26 b=147 t=11.2 d=262	2 720 2 170 1 610 1 060 500	362 356 345 310 234	319 316 310 284 221	272 270 267 251 201	1 330 1 330 1 330 1 150 542	317 303 283 252 192	959 944 922 888 812	M <sub>r</sub> 139 V <sub>r</sub> 308 L <sub>u</sub> 2 280 I <sub>x</sub> 60.1 S <sub>x</sub> 459	3 000 3 500 4 000 4 500 5 000	126 117 108 98.6 88.0	5 500 6 000 6 500 7 000 7 500	77.5 69.2 62.5 57.0 52.4
<b>W250X33</b> W10X22 b=146 t=9.1 d=258	2 720 2 170 1 610 1 060 500	308 304 296 280 207	270 268 263 254 194	229 228 226 222 176	1 130 1 130 1 130 1 130 542	272 260 244 219 170	815 802 784 757 696	M <sub>r</sub> 114 V <sub>r</sub> 280 L <sub>u</sub> 2 180 I <sub>x</sub> 48.9 S <sub>x</sub> 379	3 000 3 500 4 000 4 500 5 000	102 93.1 84.0 74.1 63.6	5 500 6 000 6 500 7 000 7 500	55.6 49.4 44.4 40.3 36.9
<b>W200X86</b> W8X58 b=209 t=20.6 d=222	2 790 2 210 1 640 1 070 500	689 615 537 455 369	621 558 493 425 351	532 486 437 387 327	3 000 2 400 1 780 1 160 542	485 450 405 340 241	1 870 1 820 1 760 1 660 1 440	M <sub>r</sub> 265 V <sub>r</sub> 514 L <sub>u</sub> 4 620 I <sub>x</sub> 94.7 S <sub>x</sub> 853	5 000 5 500 6 000 6 500 7 000	261 256 251 245 240	7 500 8 000	235 230

Note: \*25 MPa, 1850 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
t—mm V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>

**COMPOSITE MEMBERS**  
**Trial Selection Tables**  
**Table 4.8**

**76 mm Deck with 85 mm Slab**  
 $\phi=0.90, \phi_c=0.60, \phi_{sc}=0.80$



**300W**  
**25 MPa**

Steel Shape#	Composite Beam*						Non-Composite Shape					
	b <sub>1</sub> (mm)	Factored Resistances			I <sub>t</sub> 10 <sup>6</sup> mm <sup>4</sup>	S <sub>t</sub> 10 <sup>3</sup> mm <sup>3</sup>	Steel Shape Data	Unbraced Condition				
		M <sub>rc</sub> (kN-m) for Shear Connections=						Q <sub>r</sub> (kN) for 100%	L'	M' <sub>r</sub> kN-m	L'	M' <sub>r</sub> kN-m
		100%	75%	50%								
<b>W200X71</b> W8X48 b=206 t=17.4 d=216	2 780 2 210 1 640 1 070 500	576 549 474 395 313	513 496 432 367 298	436 426 379 331 276	2 460 2 400 1 780 1 160 542	411 385 349 297 212	1 560 1 520 1 480 1 400 1 230	M <sub>r</sub> 217 V <sub>r</sub> 393 L <sub>u</sub> 4 150 I <sub>x</sub> 76.6 S <sub>x</sub> 709	5 000 5 500 6 000 6 500 7 000	208 203 198 193 188	7 500 8 000	183 178
<b>W200X59</b> W8X40 b=205 t=14.2 d=210	2 780 2 210 1 640 1 070 500	484 469 425 348 268	427 418 384 320 254	359 355 333 286 234	2 040 2 040 1 780 1 160 542	348 328 299 257 186	1 300 1 270 1 240 1 180 1 050	M <sub>r</sub> 176 V <sub>r</sub> 341 L <sub>u</sub> 3 780 I <sub>x</sub> 61.1 S <sub>x</sub> 582	4 000 4 500 5 000 5 500 6 000	174 169 164 159 154	6 500 7 000 7 500	149 144 139
<b>W200X52</b> W8X35 b=204 t=12.6 d=206	2 780 2 210 1 640 1 070 500	429 417 396 321 242	376 369 356 294 229	315 312 306 260 210	1 800 1 800 1 780 1 160 542	311 293 270 233 170	1 150 1 130 1 100 1 050 940	M <sub>r</sub> 154 V <sub>r</sub> 290 L <sub>u</sub> 3 620 I <sub>x</sub> 52.7 S <sub>x</sub> 512	4 000 4 500 5 000 5 500 6 000	150 145 140 135 131	6 500 7 000 7 500	126 121 116
<b>W200X46</b> W8X31 b=203 t=11.0 d=203	2 780 2 210 1 640 1 070 500	380 371 355 297 220	331 326 317 271 207	276 274 270 237 189	1 580 1 580 1 580 1 160 542	278 263 243 212 156	1 020 1 000 975 934 841	M <sub>r</sub> 134 V <sub>r</sub> 260 L <sub>u</sub> 3 460 I <sub>x</sub> 45.5 S <sub>x</sub> 448	4 000 4 500 5 000 5 500 6 000	129 124 119 114 109	6 500 7 000 7 500	105 99.8 94.9
<b>W200X42</b> W8X28 b=166 t=11.8 d=205	2 740 2 180 1 620 1 060 500	348 341 328 283 207	303 299 291 256 194	252 250 247 223 176	1 430 1 430 1 430 1 150 542	258 245 227 199 148	930 913 890 853 772	M <sub>r</sub> 120 V <sub>r</sub> 263 L <sub>u</sub> 2 850 I <sub>x</sub> 40.9 S <sub>x</sub> 399	3 000 3 500 4 000 4 500 5 000	119 114 109 104 98.6	5 500 6 000 6 500 7 000	93.5 88.4 83.4 77.7
<b>W200X36</b> W8X24 b=165 t=10.2 d=201	2 740 2 180 1 620 1 060 500	301 296 286 260 186	261 258 252 235 173	216 215 212 202 156	1 240 1 240 1 240 1 150 542	225 214 200 177 134	808 793 773 743 678	M <sub>r</sub> 103 V <sub>r</sub> 222 L <sub>u</sub> 2 730 I <sub>x</sub> 34.4 S <sub>x</sub> 342	3 000 3 500 4 000 4 500 5 000	100 95.3 90.4 85.5 80.5	5 500 6 000 6 500	75.5 70.6 64.7
<b>W200X31</b> W8X21 b=134 t=10.2 d=210	2 710 2 160 1 610 1 050 500	270 266 259 244 176	234 231 227 219 163	194 193 191 187 146	1 080 1 080 1 080 1 080 542	209 200 187 167 129	720 707 690 664 609	M <sub>r</sub> 90.4 V <sub>r</sub> 240 L <sub>u</sub> 2 150 I <sub>x</sub> 31.4 S <sub>x</sub> 299	3 000 3 500 4 000 4 500 5 000	81.1 75.3 69.5 63.6 57.0	5 500 6 000	50.6 45.6
<b>W200X27</b> W8X18 b=133 t=8.4 d=207	2 710 2 160 1 600 1 050 500	230 227 222 211 158	198 196 193 187 145	164 163 162 159 129	915 915 915 915 542	180 173 162 146 114	614 603 589 568 524	M <sub>r</sub> 75.3 V <sub>r</sub> 214 L <sub>u</sub> 2 050 I <sub>x</sub> 25.8 S <sub>x</sub> 249	3 000 3 500 4 000 4 500 5 000	65.4 59.7 54.0 47.5 41.2	5 500 6 000	36.4 32.6

Note: \*25 MPa, 1850 kg/m<sup>3</sup> Concrete. #G40-21-M 300W Steel

Units: b—mm d—mm M<sub>r</sub>—kN-m L<sub>u</sub>—mm I<sub>x</sub>—10<sup>6</sup>mm<sup>4</sup>  
t—mm V<sub>r</sub>—kN S<sub>x</sub>—10<sup>3</sup>mm<sup>3</sup>