



STRINGER TYPE	1	2	3	4	5	6	7
SPAN RANGE	TO 15000 mm	15000 TO 20000 mm	20000 TO 24000 mm	24000 TO 29000 mm	29000 TO 36000 mm	36000 TO 39000 mm	39000 TO 43000 mm
CONCRETE AT RELEASE	25 MPa	29 MPa	31 MPa	35 MPa	35 MPa	35 MPa	35 MPa
CONCRETE AT 28 DAYS	30 MPa	34 MPa	36 MPa	45 MPa	45 MPa	45 MPa	45 MPa
SPACING OF STRINGERS	1200 mm	1200 TO 1800 mm	1800 TO 2100 mm	1800 TO 2200 mm	2000 TO 2700 mm	2300 TO 3200 mm	2600 TO 3400 mm
No. OF DRAPED STRANDS	2	4	6	6	10	12	12
MAX. No. STRAIGHT STRANDS	14	24	24	24	38	44	56
HOLD DOWN POINT FROM	2000 mm	2000 mm	2500 mm	3000 mm	3000 mm	3000 mm	3000 mm
SECTION PROPERTITES	A = 0.1989 m <sup>2</sup>	A = 0.2694 m <sup>2</sup>	A = 0.3048 m <sup>2</sup>	A = 0.3403 m <sup>2</sup>	A = 0.4339 m <sup>2</sup>	A = 0.5290 m <sup>2</sup>	A = 0.6531 m <sup>2</sup>
	I = 0.0199 m <sup>4</sup>	I = 0.0411 m <sup>4</sup>	I = 0.0661 m <sup>4</sup>	I = 0.0987 m <sup>4</sup>	I = 0.1782 m <sup>4</sup>	I = 0.2920 m <sup>4</sup>	I = 0.4843 m <sup>4</sup>
	y <sub>b</sub> = 396 mm	y <sub>b</sub> = 466 mm	y <sub>b</sub> = 574 mm	y <sub>b</sub> = 685 mm	y <sub>b</sub> = 792 mm	y <sub>b</sub> = 951 mm	y <sub>b</sub> = 1111 mm
	y <sub>t</sub> = 518 mm	y <sub>t</sub> = 652 mm	y <sub>t</sub> = 721 mm	y <sub>t</sub> = 788 mm	y <sub>t</sub> = 936 mm	y <sub>t</sub> = 1049 mm	y <sub>t</sub> = 1189 mm
	S <sub>b</sub> = 0.0502 m <sup>3</sup>	S <sub>b</sub> = 0.0882 m <sup>3</sup>	S <sub>b</sub> = 0.1152 m <sup>3</sup>	S <sub>b</sub> = 0.1441 m <sup>3</sup>	S <sub>b</sub> = 0.2251 m <sup>3</sup>	S <sub>b</sub> = 0.3071 m <sup>3</sup>	S <sub>b</sub> = 0.4359 m <sup>3</sup>
	S <sub>t</sub> = 0.0384 m <sup>3</sup>	S <sub>t</sub> = 0.0631 m <sup>3</sup>	S <sub>t</sub> = 0.0917 m <sup>3</sup>	S <sub>t</sub> = 0.1251 m <sup>3</sup>	S <sub>t</sub> = 0.1905 m <sup>3</sup>	S <sub>t</sub> = 0.2784 m <sup>3</sup>	S <sub>t</sub> = 0.4073 m <sup>3</sup>
	WEIGHT = 4.99 KN/m	WEIGHT = 6.77 KN/m	WEIGHT = 7.66 KN/m	WEIGHT = 8.55 KN/m	WEIGHT = 10.90 KN/m	WEIGHT = 13.29 KN/m	WEIGHT = 16.4 KN/m
VOL / SURFACE = 63 mm	VOL / SURFACE = 71 mm	VOL / SURFACE = 70 mm	VOL / SURFACE = 69 mm	VOL / SURFACE = 76 mm	VOL / SURFACE = 82 mm	VOL / SURFACE = 88 mm	

- NOTES:**
- PRESTRESSING STRANDS TO BE 13# 7 WIRE UNCOATED, LOW RELAXATION, CONFORMING TO C.S.A. SPECIFICATION G279-M1982 GRADE 1862. MINIMUM ULTIMATE TENSILE STRENGTH = 184 KN PER STRAND. TENSILE LOAD AT TIME OF RELEASE OF STRAND = 138 KN PER STRAND.
  - CONCRETE: THE FOLLOWING CONCRETE STRENGTHS SHALL BE USED AS A GUIDELINES:  
NORMAL CONCRETE f<sub>cl</sub> = 32 MPa, f<sub>c</sub> = 45 MPa  
HIGH STRENGTH CONCRETE f<sub>cl</sub> = 35 MPa, f<sub>c</sub> = 45 MPa  
SUPERPLASTICIZED CONCRETE f<sub>cl</sub> = 37.5 MPa, f<sub>c</sub> = 55 MPa
  - REINFORCING STEEL TO CONFORM TO C.S.A. SPECIFICATION G30.18M GRADE 400R. LAP OF BARS FOR SPLICES TO BE 40 X d. SPLICES TO BE STAGGERED.
  - REINFORCING STEEL TO HAVE 25 mm MINIMUM COVER.
  - BOTTOM EDGES OF STRINGERS TO BE CHAMFERED 25 mm.
  - LIFTING DEVICES APPROVED BY THE ENGINEER, SHALL BE PROVIDED OVER THE BEARINGS. ONLY VERTICAL LIFTS SHALL BE PERMITTED. CARE SHALL BE TAKEN TO PREVENT ANY IMPACT LOADS ON THE STRINGERS.
  - PAINT ENDS OF PRESTRESSING STRANDS WITH TWO COATS OF AN APPROVED GALVANIZING AGENT.

Rev	Date	Description	Init
D	30/03/06	REVISED BORDER	WHK
C	03/03/00	REINFORCING STEEL SPEC.	GDW
B	27/03/98	REDRAWN	

REVISIONS

Ministry of  
Transportation  
Bridge Engineering

## STANDARD PRESTRESSED CONCRETE 'I' BEAMS

PREPARED UNDER THE DIRECTION OF		DESIGNED	DATE
ENGINEER OF RECORD		CHECKED	DATE
CHIEF BRIDGE ENGINEER		DRAWN	DATE 27/03/98
DATE		SCALE	1:20
FILE No.		REG.	NEGATIVE No.
PROJECT No.		DRAWING No.	
		D202	

CANCEL PRINTS BEARING PREVIOUS LETTER