

form-scaff

fs-Beam



2003

KAGISO



VENTURES



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International branches

Main branches	Telephone number	E-mail address
Johannesburg, South Africa	(+2711) 786-6151	info@formscaff.com
Gaborone, Botswana	(+267) 328-633	info@formscaff.com
Santiago, Chile	(+56) 2 738-5019	info@formscaff.cl
Port Louis, Mauritius	(+230) 211-0391	info@formscaff.com
Matola, Mozambique	(+258) 8 231 4217	info@formscaff.com

Local branches

Branches	Telephone number	Branches	Telephone number
Bloemfontein	(051) 432-5555	Port Elizabeth	(041) 453-2317
Cape Town	(021) 551-3507	Pretoria	(012) 653-8745
Chloorkop	(011) 393-4400	Richards Bay	(035) 797-4101
Durban	(031) 705-1112	Rustenburg	(014) 594-2726
East London	(043) 748-2558	Secunda	(017) 639-1458
Johannesburg		Somerset West	(021) 845-4090
(Kya Sands)	(011) 708-2227	Tongaat	(032) 944-3105
Margate	(039) 317-1708	Vereeniging	(016) 455-1611
Nelspruit	(013) 758-1036	Witbank	(013) 690-2833
Newcastle	(034) 375-7697	Wynberg	
Pietersburg	(015) 297-1550	(Factory & Head Office)	(011) 786-6151
Pietermaritzburg	(033) 394-5504		

Company History and Corporate Profile

Form-Scaff a division of Waco Africa Limited, is a South African company owned by Waco International and our Black Empowerment partner Kagiso Ventures. Form-Scaff was established in 1963.

The company manufactures, hires and sells formwork and scaffolding. It has branches throughout the African sub-continent, as well as operations in Mauritius and Chile. It is also closely associated with its sister companies in Australia, the U.K. and the U.S.A.

The company is committed to continued growth through the enhancement of its customer service, the quality of its products and by broadening its trading base to include on-going maintenance contracts in the energy and chemical industries. This policy serves to satisfy the company's growth objectives and by so doing, meet the long-term interests of its employees, suppliers and shareholders.

The company has an innovative approach to the demands of its customers and runs a very active Research & Development department. A large proportion of its products is exported.

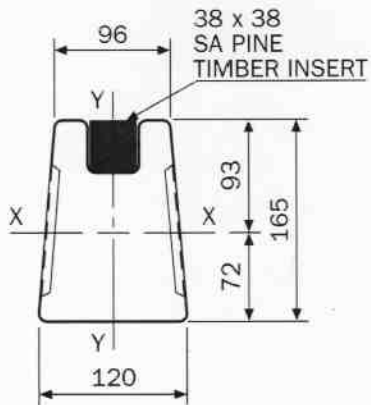
The Drawing Office at Form-Scaff is staffed by highly qualified and well-experienced personnel and boasts a modern Computer Aided Design (CAD) facility. An integrated computer based system is used in product manufacturing, commencing with order entry and going on to raw material scheduling, production planning and machine loading. Product flow, materials handling and quality assurance receive high priority throughout the manufacturing cycle.

The company's manufacturing facility is situated in Wynberg. The factories are constantly being improved and its most recent addition is a powder-coating plant to replace the old dipping system of painting.

The company is at present one of the major manufacturers of formwork and scaffolding in the world. The quality of its products has ensured that the company has maintained its position among other global suppliers. To this end, the company constantly monitors its products through its Quality Control Department to ensure that the customers' needs are always met.

TECHNICAL DATA

fs-BEAM



Properties

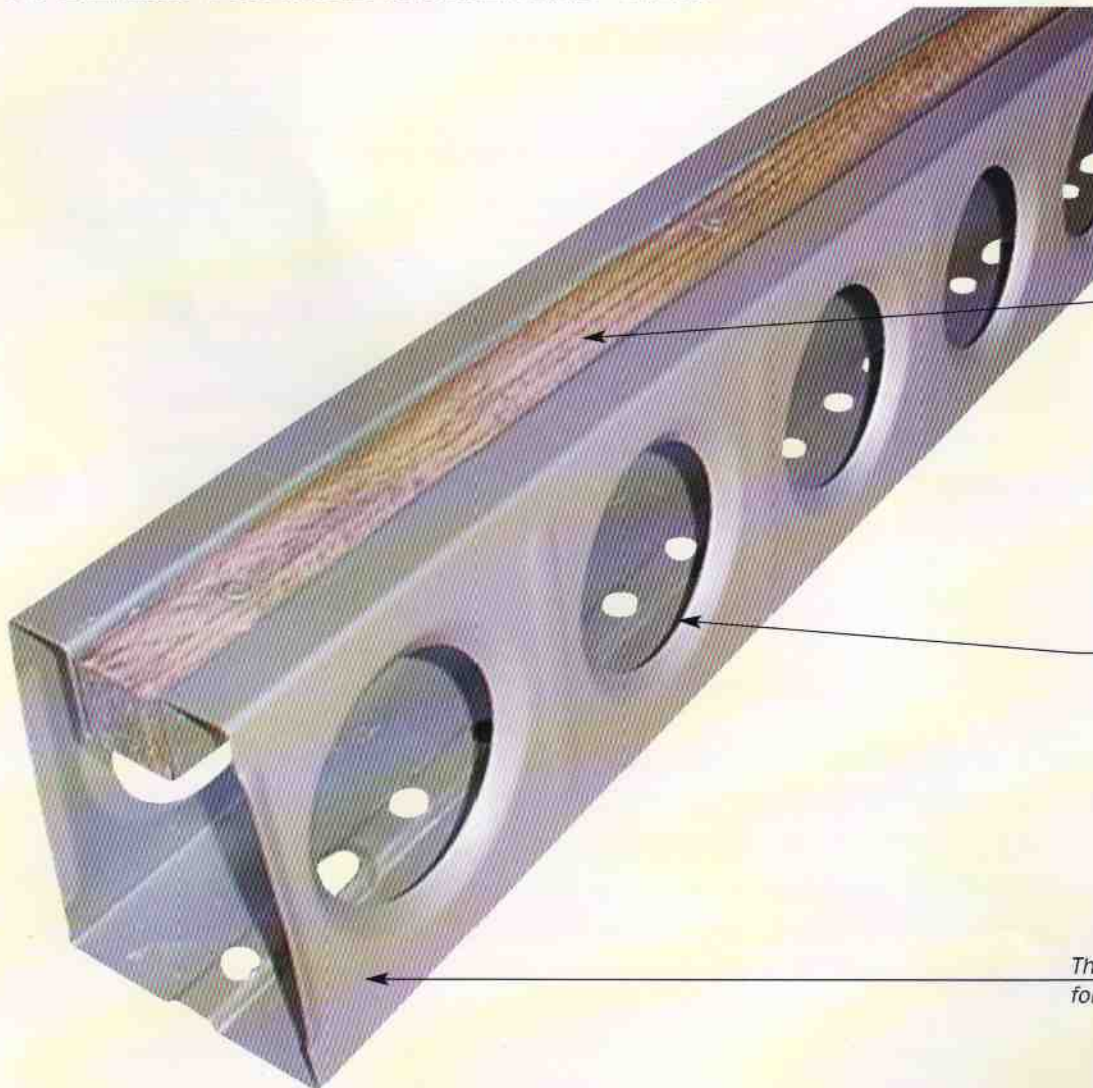
I_{xx}	2,3 x 10E6 mm ⁴	I_{yy}	1 x 10E6 mm ⁴
Area	613 mm ²	r_{yy}	39 mm
r_{xx}	61 mm	Mass	6,12 kg/m

Maximum allowable bending moment = 4 kNm

Maximum allowable reaction at end of fs-Beam = 8 kN

Maximum allowable reaction = 12,3 kN

fs-BEAM: TYPICAL ISOMETRIC VIEW

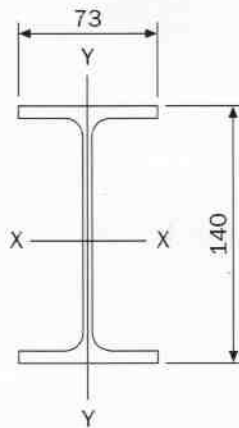


The 38 x 38 timber insert is used to fix the decking to the fs-Beam

The holes in the sides of the fs-Beam makes the beam lighter and easier to manhandle

The fs-Beams are galvanised for long-life protection

TECHNICAL DATA fs-MAIN BEARER



Properties

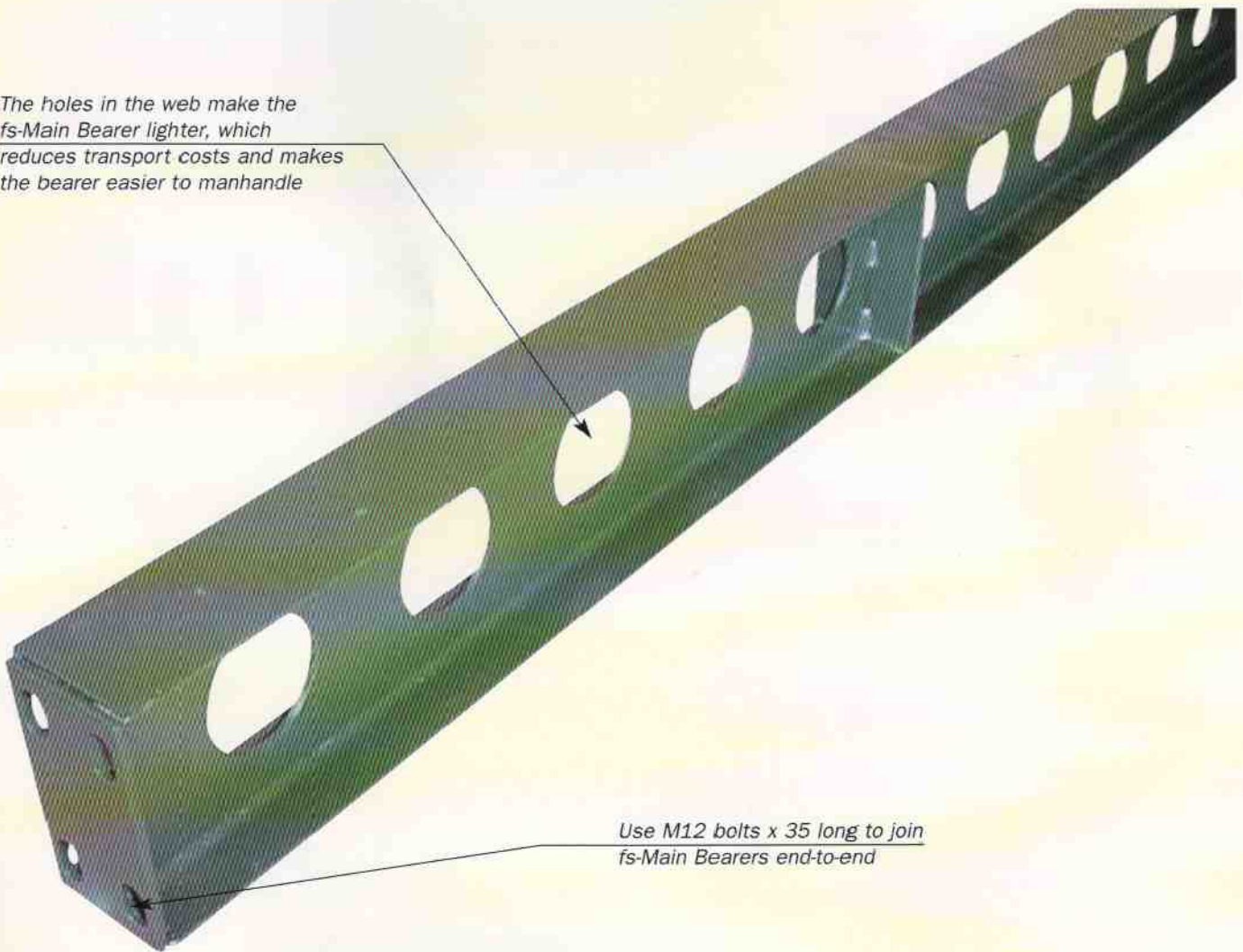
Mass	10.1 kg/m
Area	1 280 mm ²
Ixx	4.07 E6 mm ⁴
rxx	56.4 mm
Iyy	0.338 E6 mm ⁴
ryy	16.3 mm

Maximum allowable bending moment = 10 kNm

Maximum allowable reaction = 40 kN

Maximum allowable reaction at end of bearer = 30 kN

The holes in the web make the fs-Main Bearer lighter, which reduces transport costs and makes the bearer easier to manhandle



Use M12 bolts x 35 long to join fs-Main Bearers end-to-end

fs-BEAM AND fs-MAIN BEARER SPACING

The table below is based on a maximum fs-Prop extension of 2 400 mm (unlaced props)

Slab Thickness (t)mm	Load (T) kN/m ²	fs-Beam spacing a(m)								fs-Main Bearer spacing b(m)						
		0.3	0.35	0.4	0.45	0.5	0.55	0.6	0.65	2	2.25	2.5	2.75	3	3.5	4
		Permissible span for fs-Beam/prop spacing b(m)								Perm. span for Main Bearer/prop spacing c(m)						
100	4.3	3.81	3.62	3.46	3.33	3.22	3.12	3.03	2.95	2.45	2.36	2.27	2.20	2.14	2.02	1.76
125	4.9	3.64	3.46	3.31	3.18	3.07	2.98	2.89	2.81	2.34	2.25	2.17	2.10	2.04	1.76	1.54
150	5.5	3.50	3.32	3.18	3.06	2.95	2.86	2.78	2.70	2.25	2.16	2.09	1.98	1.82	1.56	1.36
175	6.1	3.38	3.21	3.07	2.95	2.85	2.76	2.68	2.61	2.17	2.09	1.96	1.78	1.63	1.40	1.22
200	6.8	3.27	3.10	2.97	2.85	2.76	2.67	2.59	2.53	2.10	1.98	1.78	1.62	1.48	1.27	1.11
225	7.4	3.17	3.01	2.88	2.77	2.68	2.59	2.52	2.45	2.03	1.81	1.63	1.48	1.36	1.16	1.02
250	8.0	3.09	2.93	2.81	2.70	2.60	2.52	2.45	2.39	1.88	1.67	1.50	1.36	1.25	1.07	0.94
275	8.6	3.01	2.86	2.74	2.63	2.54	2.46	2.39	2.33	1.74	1.55	1.39	1.26	1.16	0.99	0.87
300	9.3	2.94	2.79	2.67	2.57	2.48	2.40	2.33	2.27	1.62	1.44	1.30	1.18	1.08	0.93	0.81
325	9.9	2.88	2.73	2.62	2.51	2.43	2.35	2.28	2.22	1.52	1.35	1.22	1.10	1.01	0.87	0.76
350	10.5	2.82	2.68	2.56	2.46	2.38	2.30	2.24	2.18	1.43	1.27	1.14	1.04	0.95	0.82	0.71
375	11.1	2.77	2.63	2.51	2.42	2.33	2.26	2.20	2.14	1.35	1.20	1.08	0.98	0.90	0.77	0.67
400	11.8	2.72	2.58	2.47	2.37	2.29	2.22	2.16	2.09	1.28	1.13	1.02	0.93	0.85	0.73	0.64
425	12.4	2.67	2.54	2.43	2.33	2.25	2.18	2.12	1.99	1.21	1.08	0.97	0.88	0.81	0.69	0.61
450	13.0	2.63	2.49	2.39	2.29	2.22	2.15	2.05	1.89	1.15	1.03	0.92	0.84	0.77	0.66	0.58
475	13.6	2.59	2.46	2.35	2.26	2.18	2.11	1.96	1.81	1.10	0.98	0.88	0.80	0.73	0.63	0.55
500	14.3	2.55	2.42	2.31	2.23	2.15	2.04	1.87	1.73	1.05	0.94	0.84	0.77	0.70	0.60	0.53

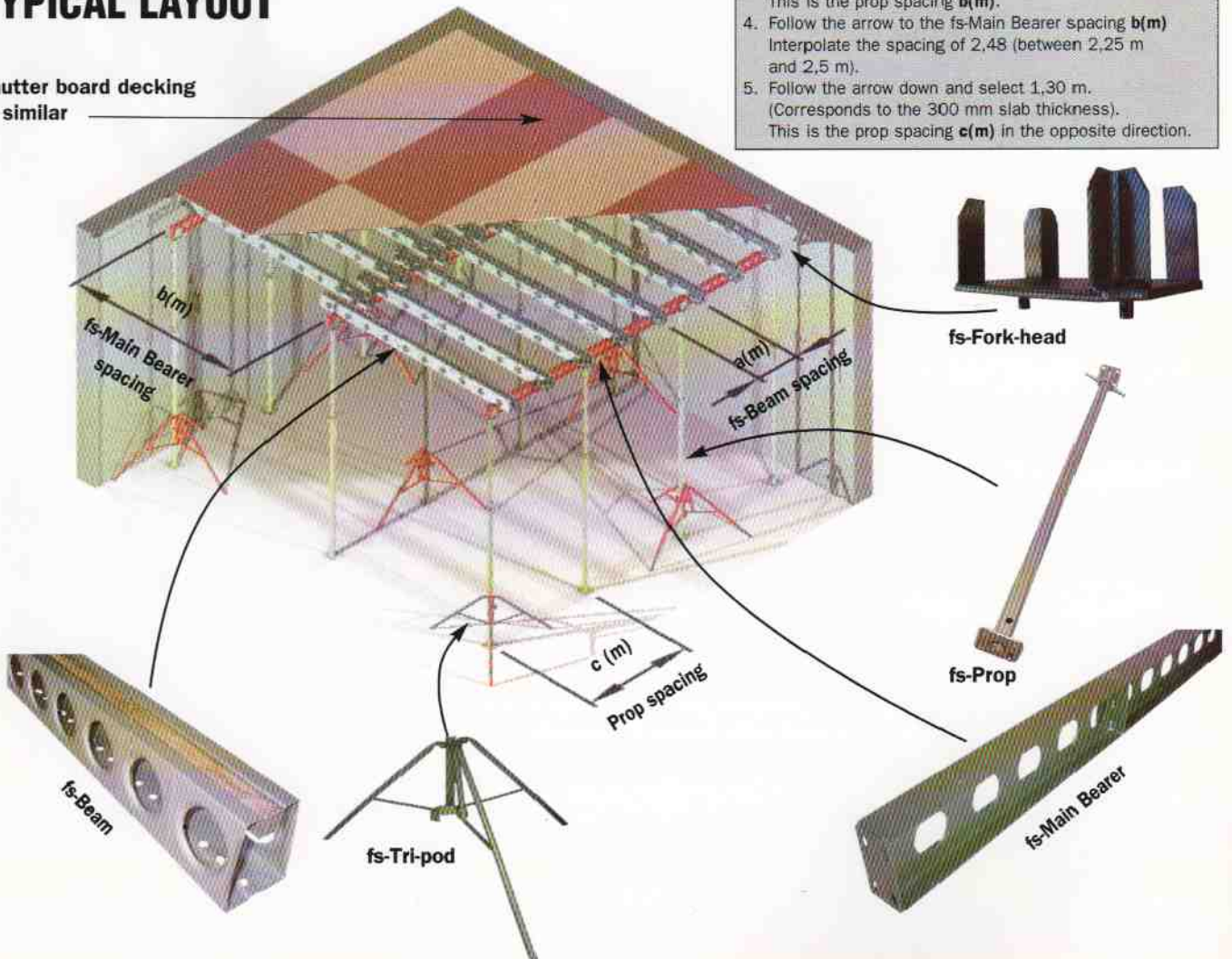
Deflection limited to span/360

Design criteria:

Dead Load or form mass $f = 0.25 \text{ kN/m}^2$
 Concrete Load $w = 25 \text{ kN/m}^3 \times t(\text{m})$
 Live Load $l = 1.5 \text{ kN/m}^2$
 Total Load $T = f + w + l \text{ kN/m}^2$

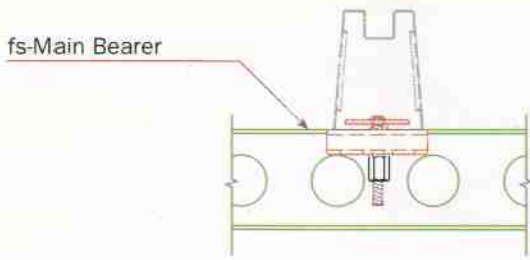
TYPICAL LAYOUT

Shutter board decking or similar

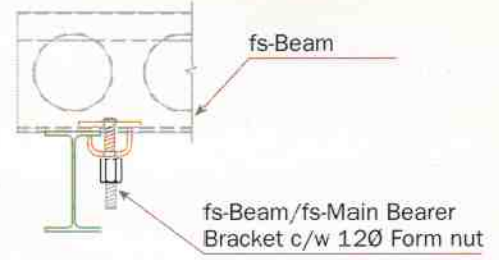


Using the above table

1. Select the required slab thickness (Example 300 mm).
2. Select the fs-Beam spacing **a(m)**.
The fs-Beam spacing is determined by the strength/thickness of the shutter board. (Example 0.5 m)
3. Follow the arrow down and select 2,48 m.
(Corresponds to the 300 mm slab thickness).
This is the prop spacing **b(m)**.
4. Follow the arrow to the fs-Main Bearer spacing **b(m)**.
Interpolate the spacing of 2,48 (between 2,25 m and 2,5 m).
5. Follow the arrow down and select 1,30 m.
(Corresponds to the 300 mm slab thickness).
This is the prop spacing **c(m)** in the opposite direction.

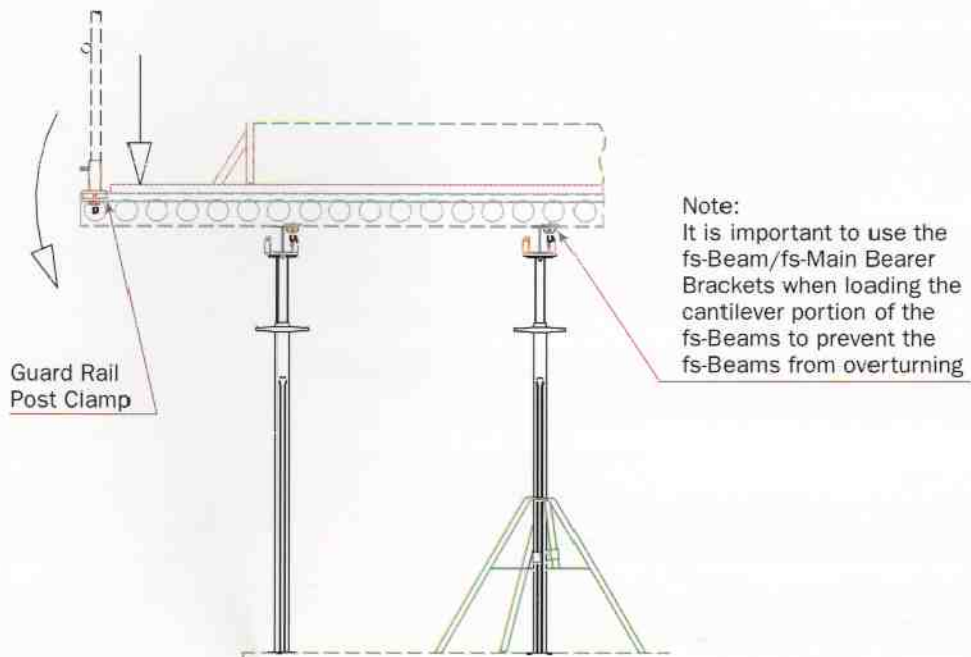


END VIEW

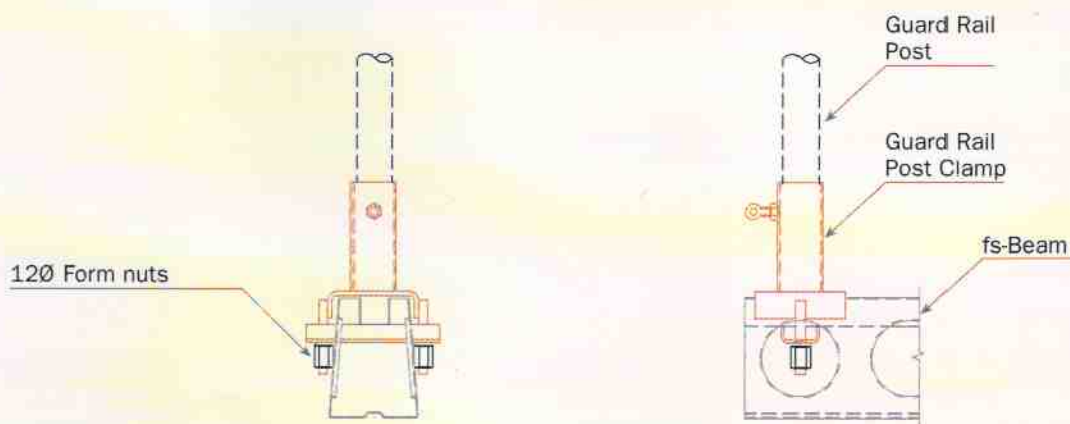


ELEVATION

fs-BEAM/fs-MAIN BEARER BRACKET CONNECTION DETAIL



TYPICAL ELEVATION



END VIEW

ELEVATION

GUARD RAIL POST CONNECTION DETAIL

