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Wave-Beam Steel Guardrail Accessories Product Specification Catalog

Thrie-Beam Guardrail Accessories
Product Specification Catalog

Standard: GB/T 31439.2-2025

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W-Beam Guardrail Accessories

Product Specification Catalog

W-Beam Guardrail Accessories — Product Specification Catalog

本图册收录两波形梁钢护栏系统标准配件， 依据 **GB/T 31439.1—2025**， 包含各配件的型号规格表及国标尺寸图纸

The image contains four technical drawings of W-beam guardrail accessories. The top two drawings show end components (D-I, D-II, D-III) and splice components (J-I-1, J-I-2, J-I-3, J-I-4) with dimensions and material specifications. The bottom two drawings show connection components (J-II-1, J-II-2, J-II-3, J-II-4) and a cross-section of a beam (H-I) with dimensions and material specifications. The drawings are labeled with 'Direct Manufacturer · Hot-Dip Galvanized' and 'D-I型端头'.

Component Index

- ▶ 端头 D- I / D- II / D-III
- ▶ 拼接螺栓连接副 J I -1 / J I -2 / J I -3 / J I -4
- ▶ 连接螺栓连接副 J II -1 / J II -2 / J II -3 / J II -4
- ▶ 螺母 J II -5 · 垫圈 J II -6 · 横梁垫片 J II -7
- ▶ 托架 T-1 / T-2
- ▶ 横隔梁 H- I

Standard: GB/T 31439.1?2025
Material: Q235 Steel, Hot-Dip Galvanized (GB/T 18226)
For all post types in W-Beam guardrail systems

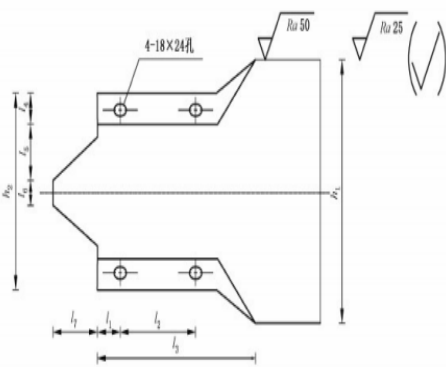
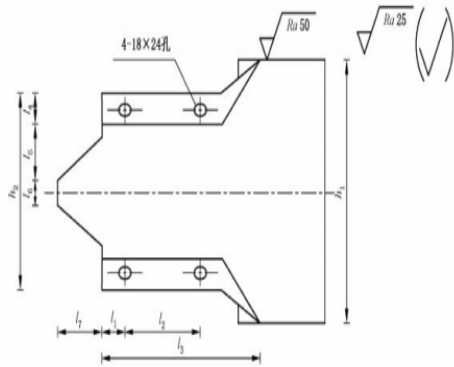
End Terminal

The end terminal is of round-head type, installed at the system end. Radius (R) may be adjusted to suit on-site alignment. Thickness should match that of the W-Beam rail plate used.

Dimensions in mm

Product Name	Model	Specification
End Terminal	D- I	R-160
End Terminal	D- II	R-250
End Terminal	D-III	R-350

单位为毫米



a) D- I 型

b) D- II 型、D- III 型

型号	l_1	l_2	l_3	l_4	l_5	l_6	l_7	R	h_1	h_2	t
D- I	60	200^{+2}_{-2}	450	45	87.5	45^{+1}_{-2}	130	160	406^{+5}_{-1}	310^{+5}_{-1}	2或2.5 或3
D- II	50	200^{+2}_{-2}	150	45	87.5	45^{+1}_{-2}	130	250	406^{+5}_{-1}	310^{+5}_{-1}	4
D- III								350			

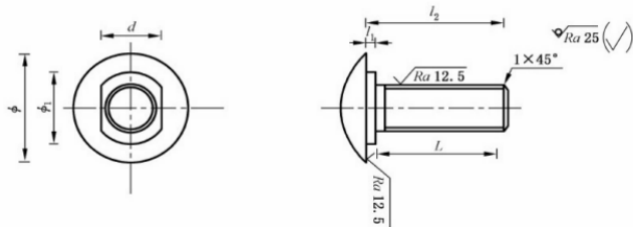
Splice Bolt Assembly

For longitudinal splicing of W-Beam rail plates by thickness. High-strength bolt assembly tensile load >= 133 kN.

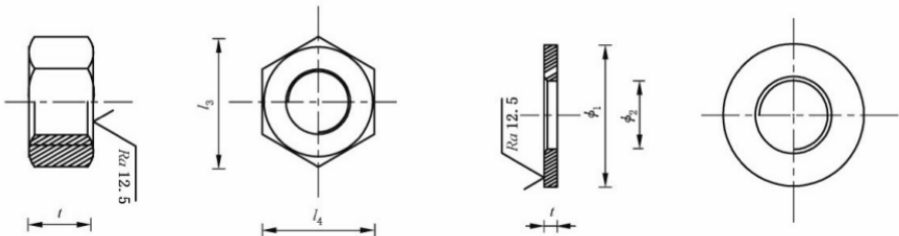
Dimensions in mm

Product Name	Model		Specification	Application
Splice Bolt	J I -1	M16×35	Used with nuts and splice bolts	For splicing W-Beam rails of 2.0 mm, 2.5 mm and 3.0 mm thickness
Splice Bolt	J I -2	M16×40		For splicing W-Beam rails of 4.0 mm thickness
Nut	J I -3	M16		
Washer	J I -4	φ35×4		

单位为毫米



a) 拼接螺栓 J I -1、J I -2



b) 螺母 J I -3

c) 垫圈 J I -4

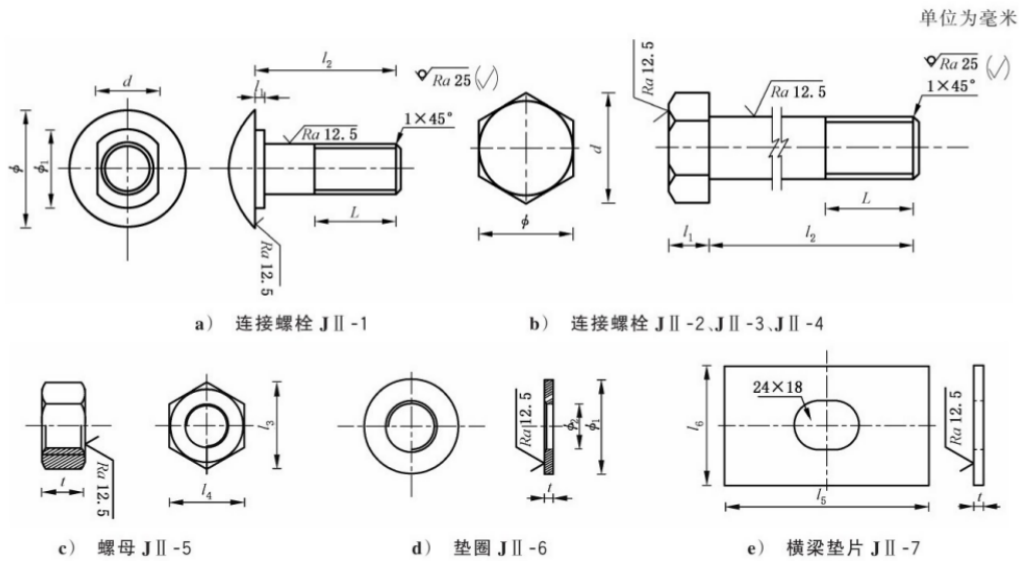
型号	l_1	l_2	l_3	l_4	t	L	ϕ	d	ϕ_1	ϕ_2
J I -1	2.0	$35^{+1.25}_{-1.25}$	—	—	—	>25	36	16	22	—
J I -2	3.0	$40^{+1.25}_{-1.25}$	—	—	—	>25	36	16	22	—
J I -3	—	—	31.2	27	$16.40^{+0.7}_0$	—	—	—	—	—
J I -4	—	—	—	—	$4.0^{+0.3}_{-0.3}$	—	—	—	35	17

Connection Bolt Assembly

For connecting W-Beam rails to brackets, diaphragm beams and posts. Select length per connection location and post diameter.

Dimensions in mm

Product Name	Model		Specification	Application
Connection Bolt	J II -1	M16×45	Connecting W-Beam rail to bracket and diaphragm beam	
Connection Bolt	J II -2	M16×180	Connecting diaphragm beam to phi140 steel pipe post	
Connection Bolt	J II -3	M16×150	Connecting bracket to phi114 steel pipe post	
Connection Bolt	J II -4	M16×130	Connecting bracket to phi89 steel pipe post	
Nut	J II -5	M16	Used with nuts and connection bolts	
Washer	J II -6	φ35×4		
Cover Plate	J II -7	76×44×4	Used with connection bolts to cover W-Beam bolt holes	



型号	l_1	l_2	l_3	l_4	l_5	l_6	t	L	ϕ	d	ϕ_1	ϕ_2
J II -1	3	$45^{+1.25}_{-1.25}$	—	—	—	—	—	>25	36	16	22	—
J II -2	10	180^{+4}_{-4}	—	—	—	—	—	>35	24	27.7	—	—
J II -3	10	150^{+2}_{-2}										
J II -4	10	130^{+2}_{-2}										
J II -5	—	—	31.2	27	—	—	$16.40^{+0.7}_{-0}$	—	—	—	—	—
J II -6	—	—	—	—	—	—	$4.0^{+0.3}_{-0.3}$	—	—	—	35	17
J II -7	—	—	—	—	76^{+1}_{-1}	44^{+1}_{-1}	$4.0^{+0.3}_{-0.3}$	—	—	—	—	—

Bracket

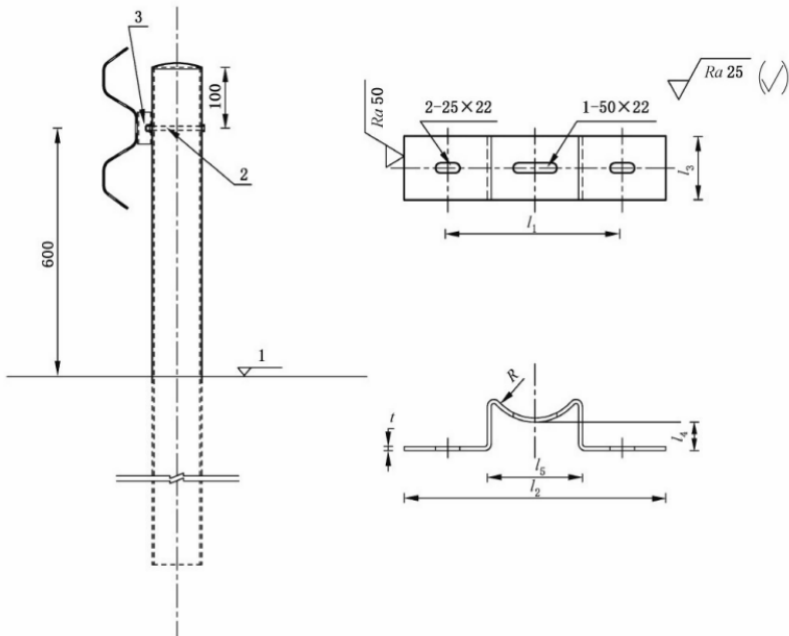
Brackets T-1 and T-2 are classified by compatible post size, mounted on posts to connect W-Beam rails.

Dimensions in mm

Product Name	Model	Specification (L x W x Thickness, Radius)	Application
Bracket	T-1	300×70×4.5 R=44.5	For phi89 steel pipe post
Bracket	T-2	300×70×4.5 R=57	For phi114 steel pipe post

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单位为毫米



型号	l_1	l_2	l_3	l_4	l_5	R	t
T-1	200^{+2}_{-2}	300	70^{+1}_0	31^{+1}_0	80^{+2}_{-2}	44.5^{+1}_0	$4.5^{+ \text{不限定}}_{-0.3}$
T-2	200^{+2}_{-2}	300	70^{+1}_0	31^{+1}_0	100^{+2}_{-2}	57^{+1}_0	

标引序号说明：
1——路面或缘石顶部标高；
2——J II -3 或 J II -4 连接螺栓；
3——托架。

Diaphragm Beam

The diaphragm beam is a dedicated accessory for combined W-Beam guardrails, installed between upper and lower rail elements to improve lateral stiffness.

Dimensions in mm

Product Name	Model	Specification (L x W x H x Wall Thickness)	Application
Diaphragm Beam	H- I	480×200×50×4.5	For combined W-Beam steel guardrail systems

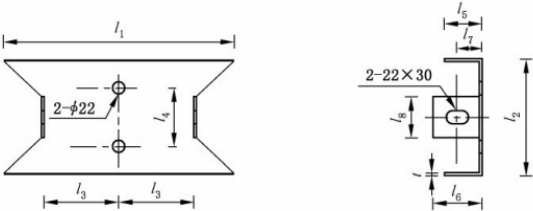
5.2.6.2 托架的外形应符合以下规定：

- a) 托架无明显的扭转；
- b) 托架端面切口平直。

5.2.7 横隔梁

5.2.7.1 横隔梁的外形、公称尺寸及允许偏差应符合图 10 的规定。

单位为毫米

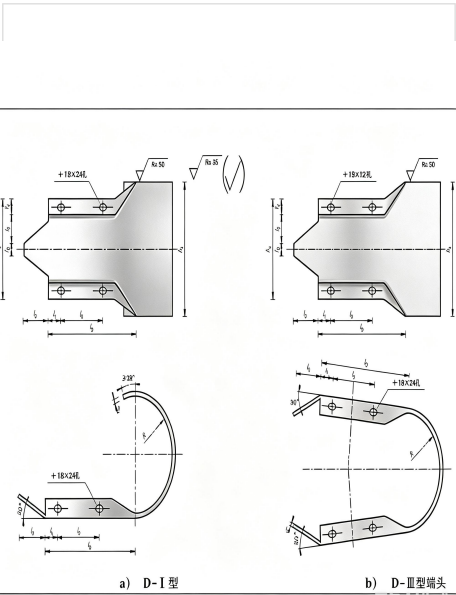


型号	l_1	l_2	l_3	l_4	l_5	l_6	l_7	l_8	t
H- I	480	200^{+2}_{-2}	161	100^{+1}_{-1}	50	65	30^{+1}_{-1}	70	$4.5^{+0.5}_{-0.5}$ 不限定

Thrie-Beam Guardrail Accessories

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Component Index

- ▶ 过渡板 TR01 / TR02
- ▶ 防阻块 BG / BF I - IV / BH I - II
- ▶ 托架 T-3
- ▶ 端头 DR1 / DR2 / DR3
- ▶ 拼接螺栓连接副 J I -1 ~ J I -4
- ▶ 连接螺栓连接副 J II -1 ~ J II -6
- ▶ 加强横梁 SPB01 / SPB02

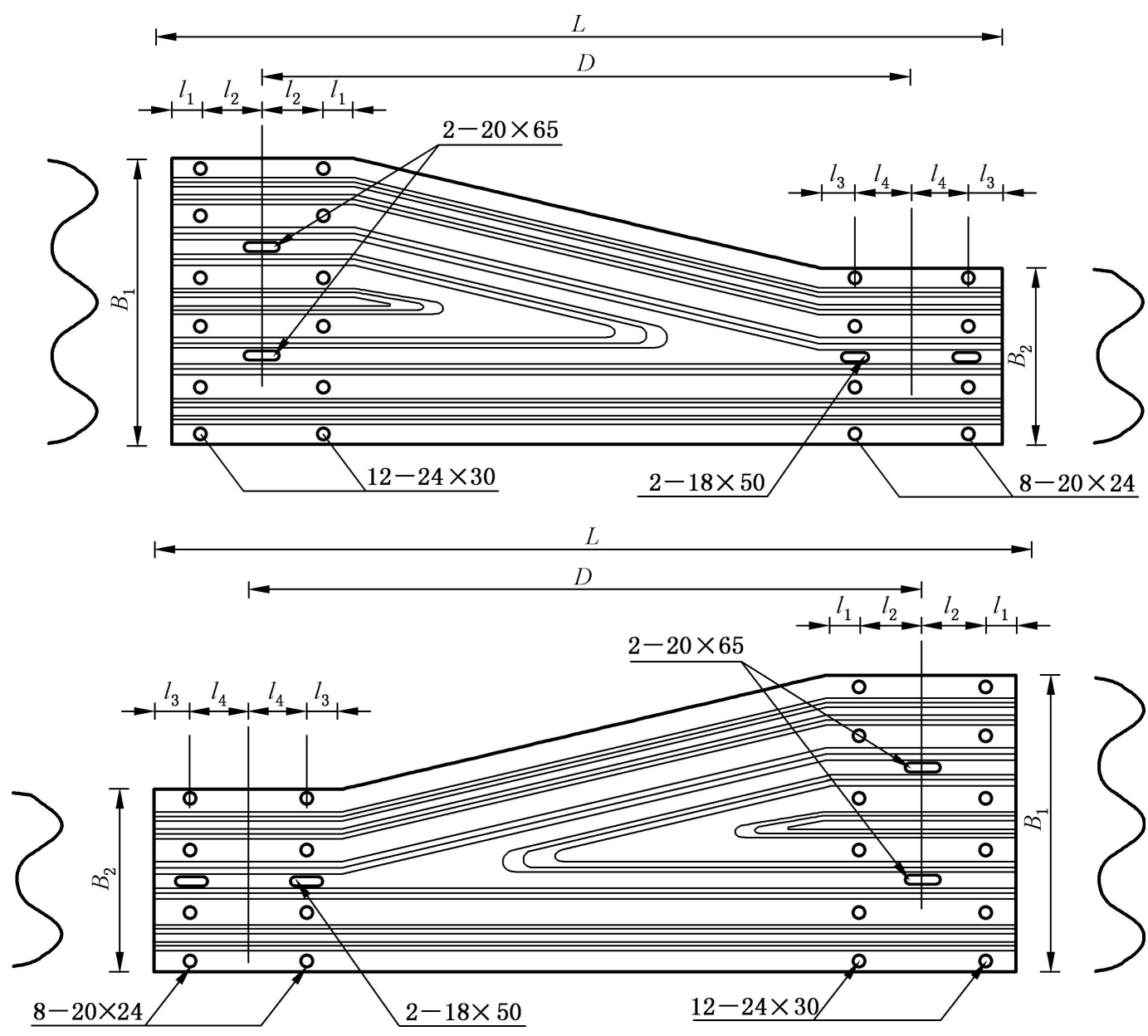
Standard: GB/T 31439.2?2025
Material: Q235 Steel, Hot-Dip Galvanized (GB/T 18226)
For all post types in Thrie-Beam guardrail systems

Transition Plate

The transition plate provides smooth transition between W-Beam and Thrie-Beam rails. Thickness shall be determined per the thicker side. Cross-section per traffic direction and GB/T 31439.1-2025 Fig.2.

Dimensions in mm

Product Name	Model	Specification (L x W x Thickness)	Application
过渡板	TR01	4320或2320×506 (另一端310) ×85×4或3	Transition between W-Beam and Thrie-Beam
过渡板	TR02	2320×506×85×3	For steel pipe post, H-section post and square tube post Thrie-Beam guardrail transition

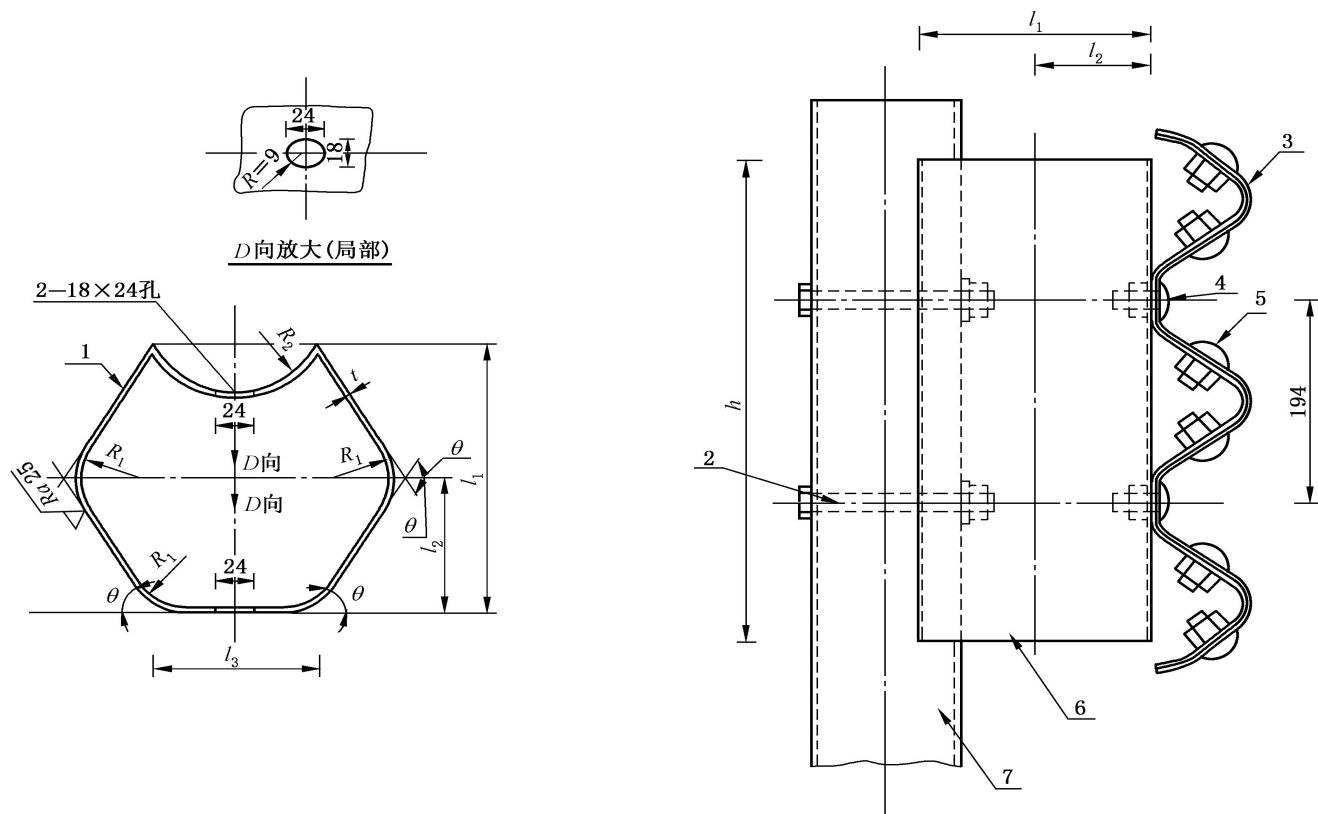


Block-out (Steel Pipe Post)

BG block-out for Thrie-Beam guardrails with steel pipe posts, installed between post and rail to absorb impact. Free of visible twist; welds shall comply with national standard.

Dimensions in mm

		Product Name	Specification (L x W x H x Thickness)	Application
Block-out	BG	196×178×400×4.5	For steel pipe post	



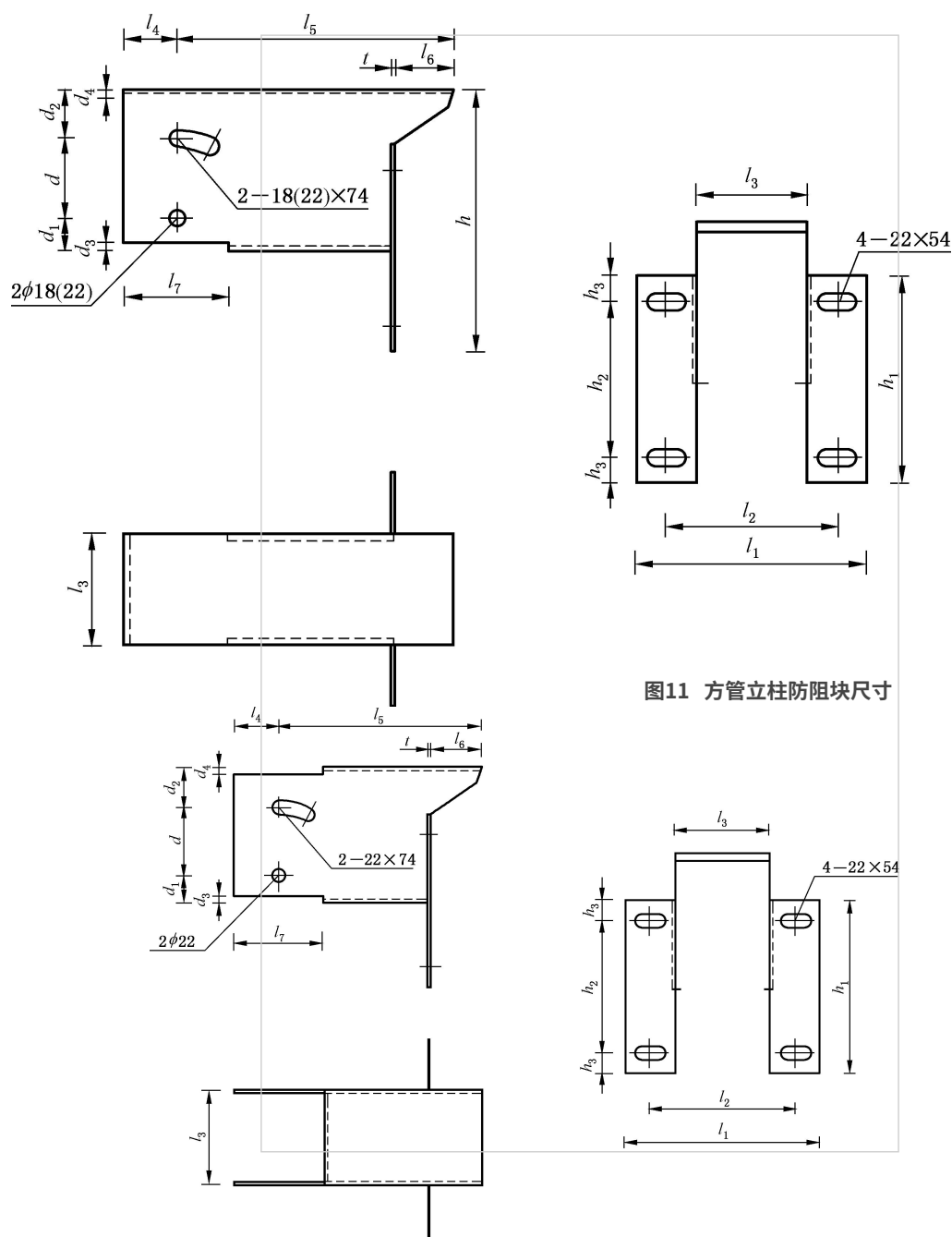
Model	l_1	h	l_2	l_3	t	θ	R^1	R^2
BG	178^{+3}_{-3}	400^{+3}_{-3}	89^{+2}_{-2}	102^{+2}_{-2}	$4.5^{+0.3}_{-0.3}$	60°	36	70

Block-out (Square Tube Post)

BF block-out for Thrie-Beam guardrails with square tube posts. Four models (BF I-IV) by connection height.
BF I bolt-hole dimensions per selected splice bolt assembly.

Dimensions in mm

Product Name	Model	Specification (H x L x Connection Ht x Thickness)	Application
Block-out	BF I	200 × (66+300) × 256 × 4.5	For square tube post
Block-out	BF II	200 × (66+300) × 256 × 4.5	
Block-out	BF III	200 × (66+350) × 256 × 4.5	
Block-out	BF IV	200 × (66+400) × 256 × 4.5	



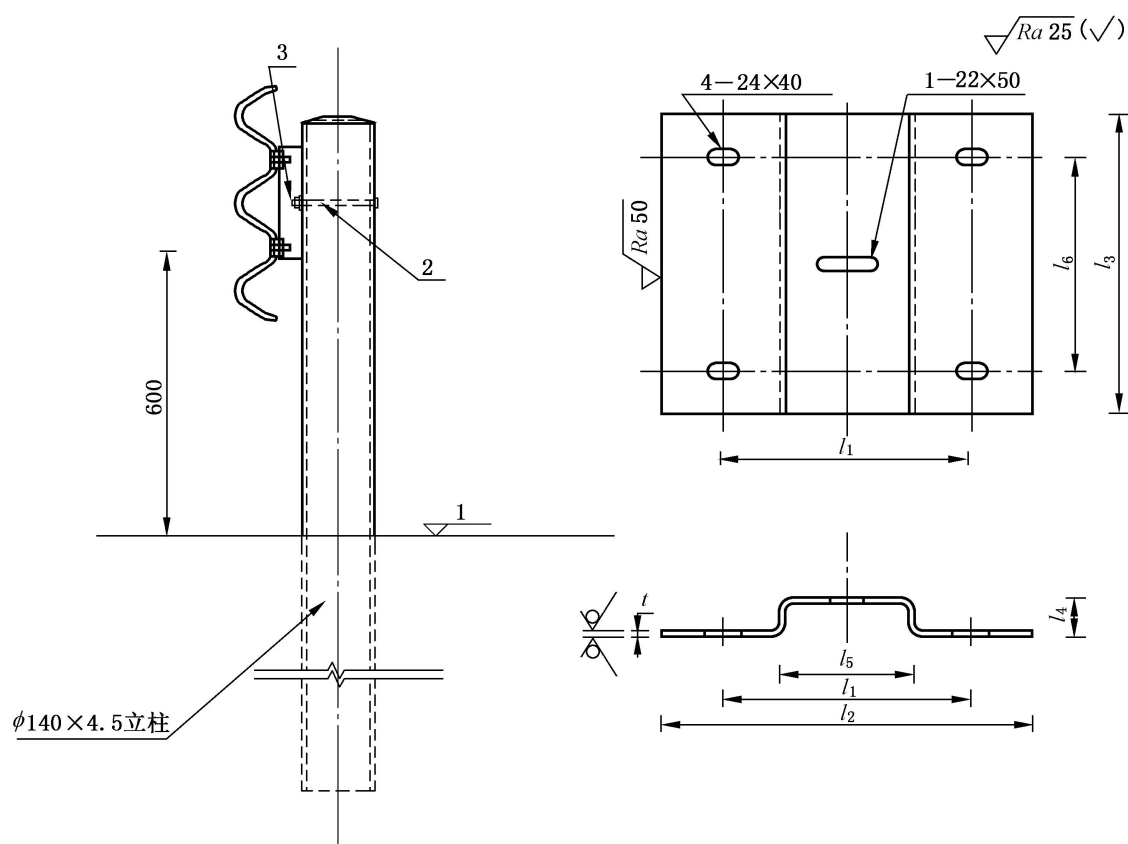
Block-out (H-Section Steel Post)

BH block-out for Thrie-Beam guardrails with H-section posts. Two models (BH I/II) by web height.

Two connection bolts (JII-3) are staggered; lower bolt on the upstream side of traffic.

Dimensions in mm

		Product Name Specification (L x H-Section Ht x Application)	
Block-out	BH I	554×150×100	For H-section steel post
Block-out	BH II	554×350×100	



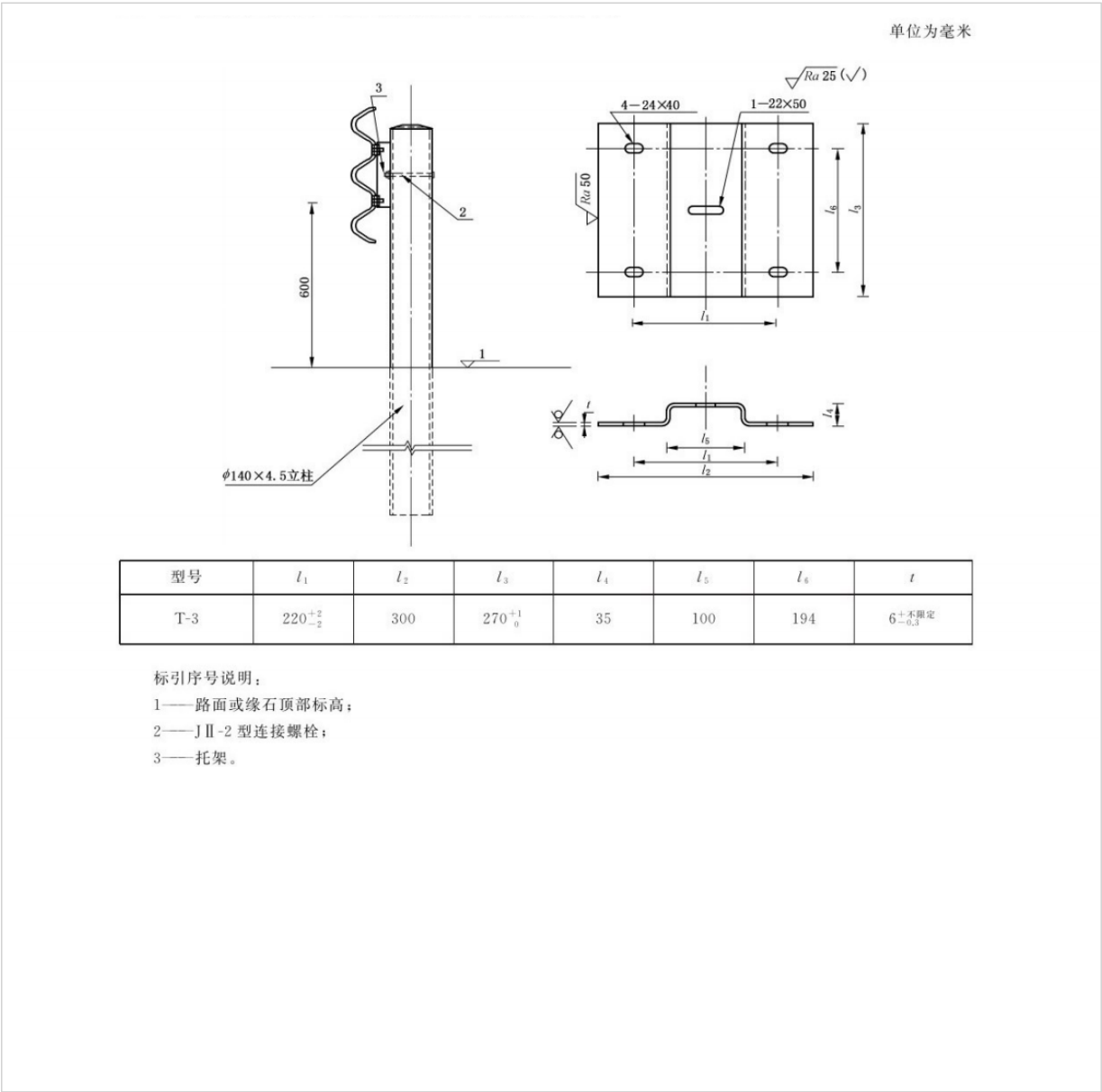
Model	H	h	h1	h2	h3	h4	B	t1	t2	l1	l2
BH	150	554	256 $\pm$ 2 ^(?)	149 $\pm$ 2 ^(?)	180	194	100	4.5	6.0	100	60 $\pm$ 1 ^(?)
BH	350					150		6.0	9.0		

Bracket

T-3 bracket for Thrie-Beam guardrail with phi140x4.5 steel pipe post. Free of visible twist;
end cuts shall be straight.

Table 6 - Bracket Models and Specifications

Dimensions in mm				
Product Name	Model	Specification (H x W x Connection Ht x Thickness)	Application	
Bracket	T-3	300×270×35×6	For steel pipe post	



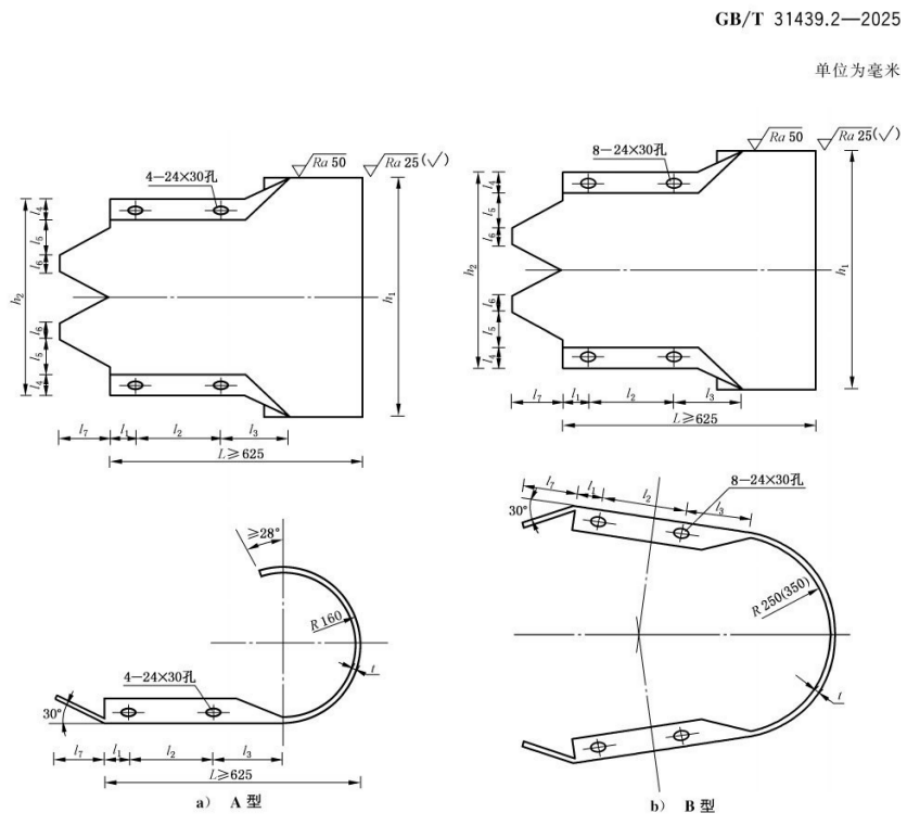
End Terminal

Type A terminal (DR1) and Type B terminals (DR2, DR3) installed at the system ends. Thickness shall match the Thrie-Beam rail plate. Curved section smooth and free of visible twist.

Table 7 - End Terminal Models and Specifications

Dimensions in mm

Product Name	Model	Type	Specification
End Terminal	DR1	Type A	R-160
End Terminal	DR2	Type B	R-250
End Terminal	DR3	Type B	R-350



型号	l_1	l_2	l_3	l_4	l_5	l_6	l_7	R	h_1	h_2	t
DR1	50^{+32}_{-5}	216^{+2}_{-2}	190	45	87.5	45^{+1}_{-2}	130	160	610^{+5}_{-5}	506^{+5}_{-5}	3 或 4
DR2	50^{+32}_{-5}	216^{+2}_{-2}	190	45	87.5	45^{+1}_{-2}	130	250	610^{+5}_{-5}	506^{+5}_{-5}	3 或 4
DR3								350			

Splice Bolt Assembly

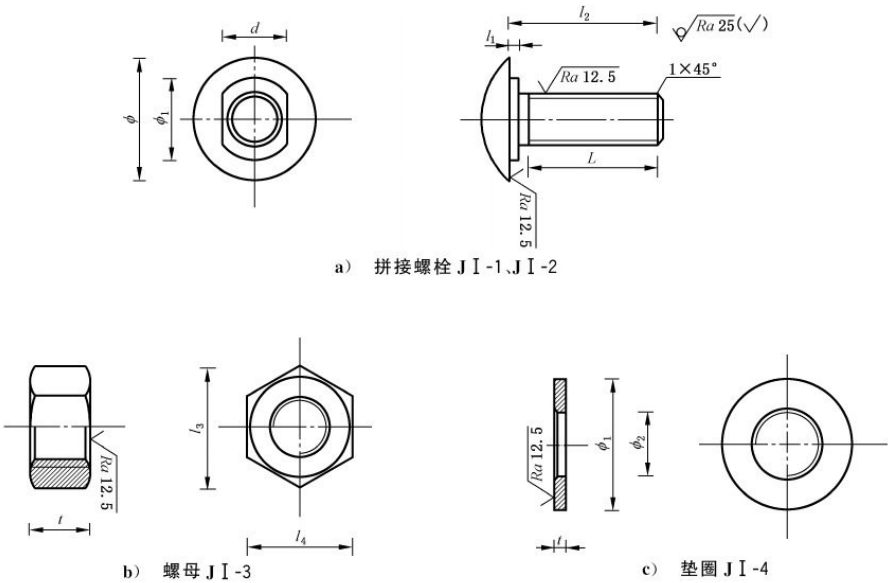
For longitudinal splicing of Thrie-Beam rails (incl. transition plates). Select spec by plate thickness.
Assembly fit shall not be affected by the corrosion protection coating.

Dimensions in mm

Product Name	Model		Specification	Application
Splice Bolt	J I -1	M16×35	Used with nuts and splice bolts	For splicing 3.0 mm Thrie-Beam rails (incl. transition plates)
Splice Bolt	J I -2	M16×40		For splicing 4.0 mm Thrie-Beam rails (incl. transition plates)
Nut	J I -3	M16		
Washer	J I -4	φ35×4		

GB/T 31439.2—2025

单位为毫米



型号	l_1	l_2	l_3	l_4	t	L	ϕ	d	ϕ_1	ϕ_2
J I -1	3.0	$35^{+1.25}_{-1.25}$	—	—	—	>25	36	16	26	—
J I -2	3.0	$40^{+1.25}_{-1.25}$	—	—	—	>25	36	16	26	—
J I -3	—	—	31.2	27	$16.40^{+0.7}_{-0}$	—	—	—	—	—
J I -4	—	—	—	—	$4.0^{+0.3}_{-0.3}$	—	—	—	35	17

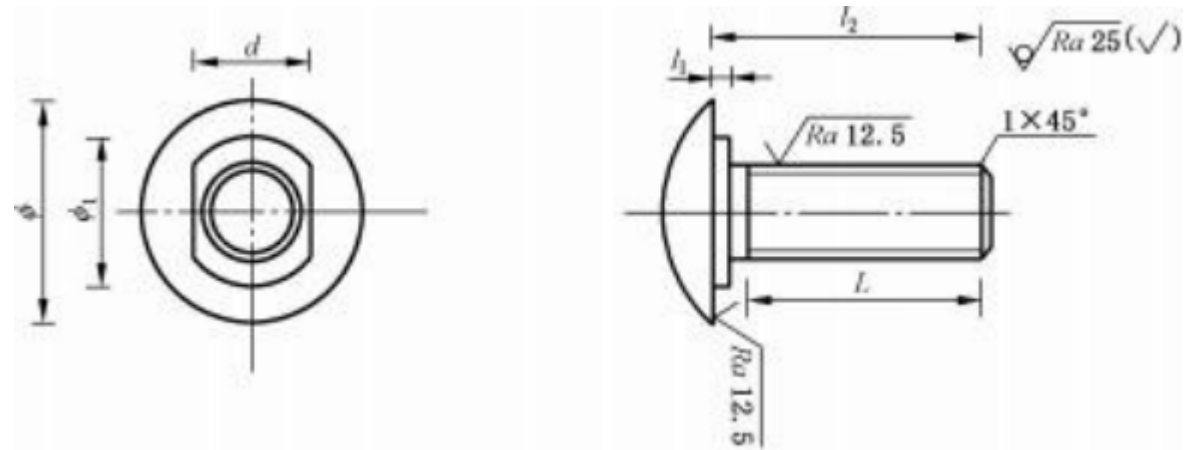
图 15 拼接螺栓连接副尺寸

Connection Bolt Assembly

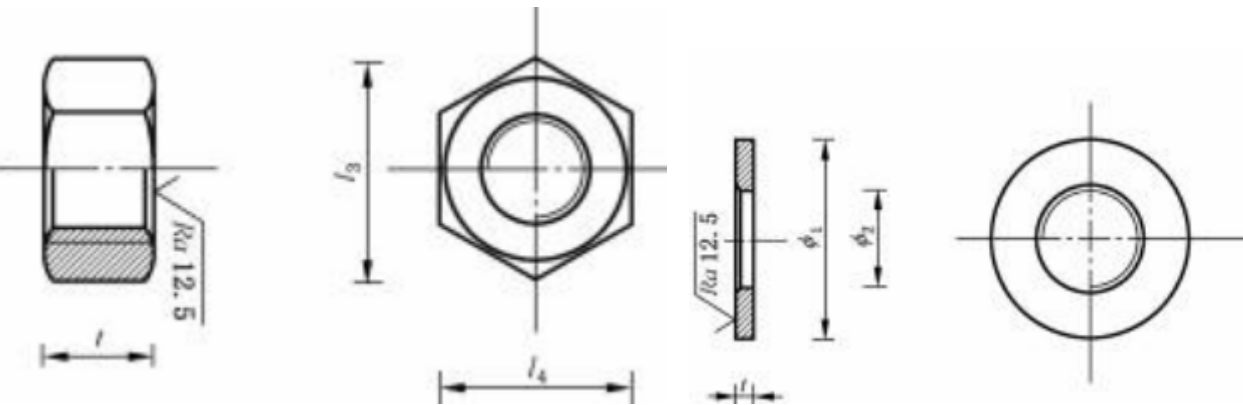
For connecting Thrie-Beam rails (back plates, transition plates) to block-outs, brackets and posts.
Select M16 or M20 by protection level. Fit shall not be affected by coating.

Dimensions in mm

Product Name	Model	Specification	Application
连接螺栓	J II -1	M16×45 / M20×45	Connecting Thrie-Beam rail to block-out and bracket; M16: Level 3(A)/4(SB); M20: Level 4(SB)/5(SA)/6(SS)/7(HB)
连接螺栓	J II -2	M16×180 / M20×180	Connecting block-out/bracket to steel pipe and square tube posts
连接螺栓	J II -3	M16×150 / M20×150	Connecting block-out to H-section steel post
Nut	J II -4	M16 / M20	Used with nuts and connection bolts
Washer	J II -5	φ35×4	
横梁垫片	J II -6	76×44×4	Used with connection bolts to cover rail bolt holes



a) 拼接螺栓J II -1、J II -2



b) 螺母J II -4

c) 垫圈J II -5

Cross Beam

Reinforcing cross beams improve lateral stiffness of Thrie-Beam guardrails.
Two models (SPB01/SPB02) by length. Length and hole spacing tolerance < 1%.

Dimensions in mm

Product Name		Model	Specification (OD x Wall Thickness x Length)
Cross Beam	SPB01		$\phi 89 \times 5.5 \times 2994$
Cross Beam	SPB02		$\phi 89 \times 5.5 \times 3994$

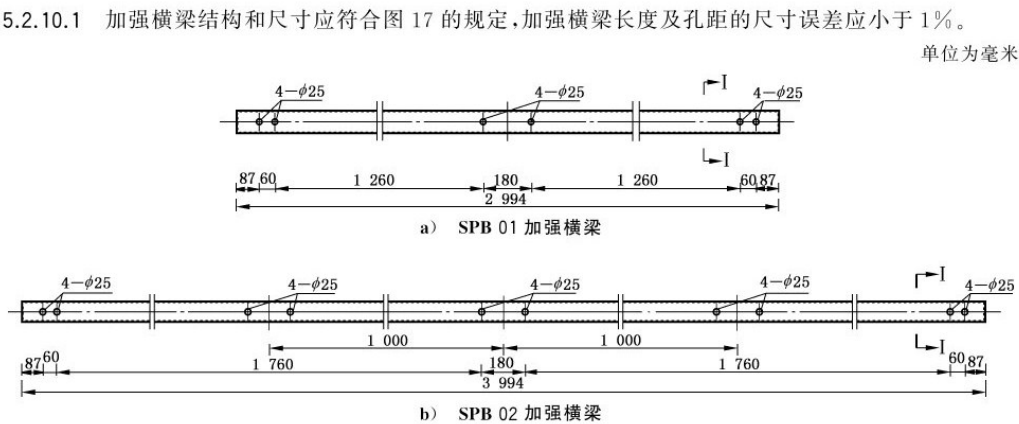


图 17 加强横梁尺寸



ShanDong Pipe Engineering
Technology Co., Ltd.

 vip775@gmail.com

 86-18668981002

