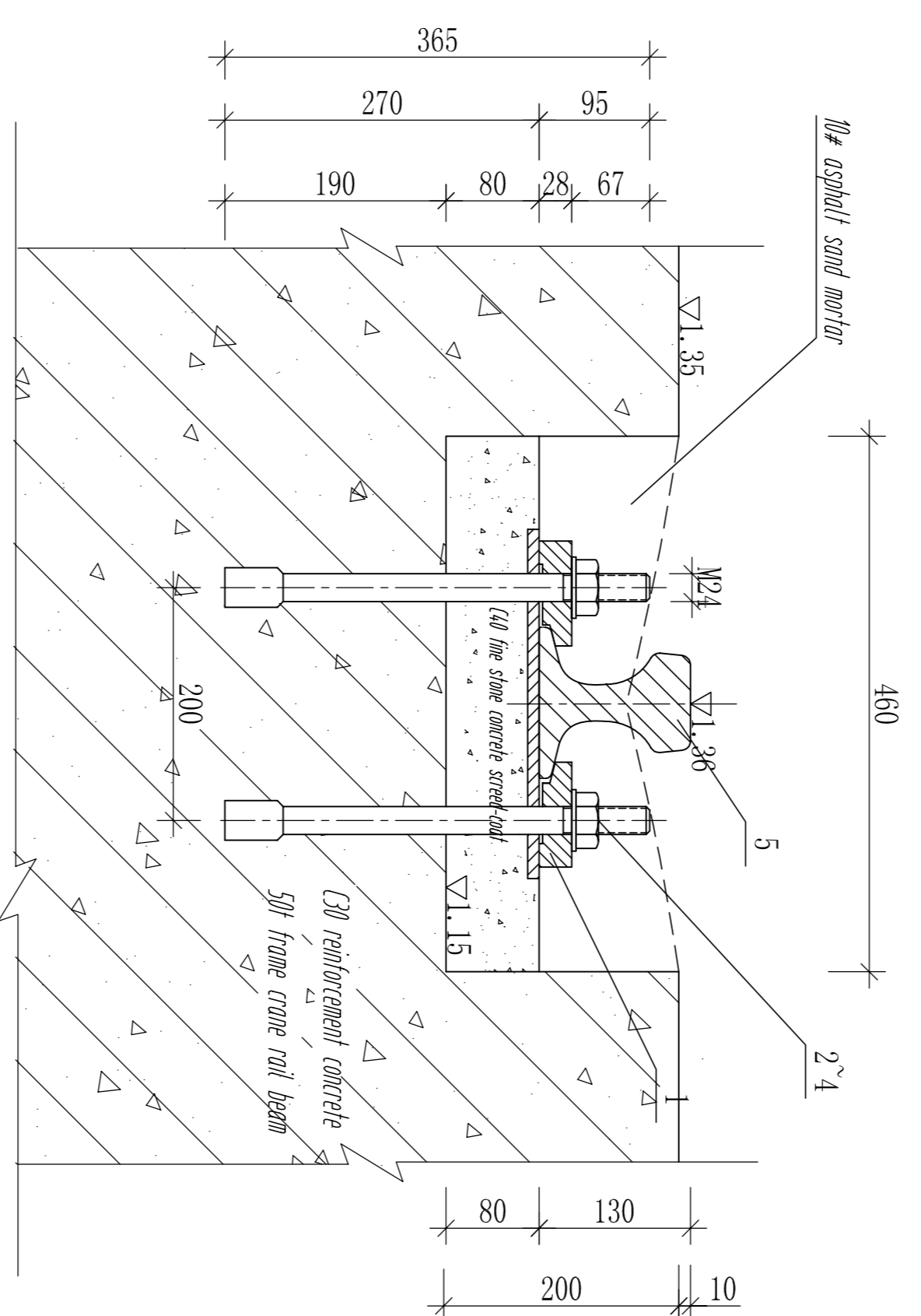
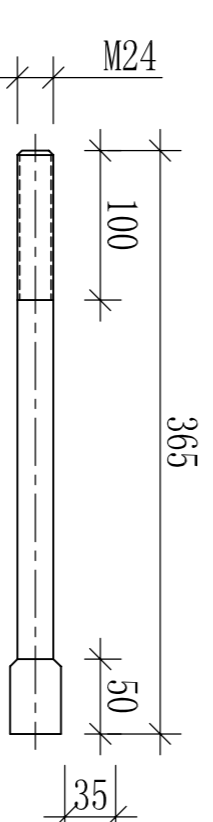


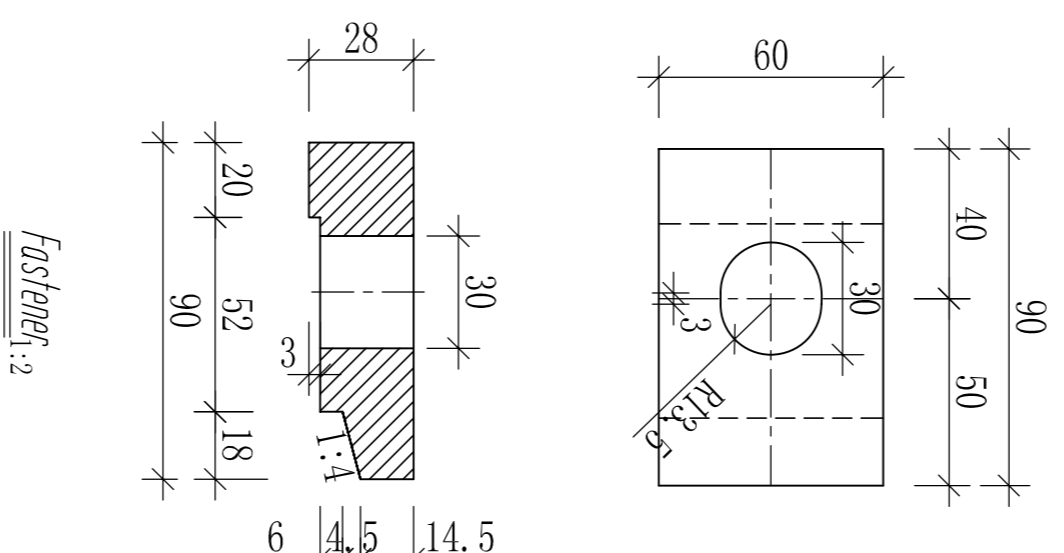
Rail Fastener Lay-out Drawing 1:5



Elevation of Rail Installation:5



Screw Bolt Fabrication Diagram 1:5



Material List (steel rail is measured by 12.0m)

Serial No.	Name	Specification	Material	Quantity	Unit	Unit Weight(kg)	Total Weight(kg)	Remark
1	fastener	90×60×28	Q235-A	50	piece/ft	0.8	40.0	16 per the drawing
2	screw bolt	M24 I=365	Q235-A	50	piece/ft	1.2	60.0	16 per the drawing
3	screw nut	M24		50	piece/ft	0.1	5.0	outdooring
4	washer	M24		50	piece/ft	0.02	1.0	outdooring
5	steel rail	Q235		12	meter	764.28		outdooring
6	steel plate	300×280×10	Q235-A	1	piece/ft	5.4	5.4	16 per the drawing
7	steel plate	300×80×10	Q235-A	23	piece/ft	1.9	43.7	16 per the drawing

Note: there are four vehicle bumpers which are fixed up at the end of slipway steel rail.

- Note:
- Dimensions in drawings are in millimeters unless in meters, levels are based on local steel level.
 - The longitudinal spacing of screw bolt is 300mm.
 - The rail installation shall be as per installation technical specification of Port Crane Rail J19QZ-28.
 - There are two 50mm frame concrete rails with each 20mm long and total length of 46mm.
 - After the installation of the rail and frame concrete running for a period of time, fastener should be be tightened heavily than put in the asphalt sand mortar in rail groove.
 - Location deviation of rail central line shall be equal or lesser than 5mm.
 - Elevation deviation of rail top shall be equal or lesser than 5mm.
 - Spacing deviation of central line between two rails shall be equal or lesser than 5mm.
 - Comparative elevation deviation of two rail top shall be equal or lesser than 1000 gauge.
 - Allowable deviation of joint right-left displacement shall be equal or lesser than 15mm up-down allowable deviation is equal or lesser than 15mm joint spacing 5mm.
 - Allowable deviation of rail partial bending shall be equal or lesser than 1/2000 gauge.
 - Material consumption quantity in the list is measured by steel rail of 12.0m.
 - Exposed steel components anticorrosive requirement is to see design description.
 - The rail length shall be adjusted if the rail joint and rail beam section joint overlaps that joint and rail beam section shall be staggered by 500mm.
 - The spacing between fastener central line and rail beam section shall be equal or greater than 20mm. Also, the joint position of two rails shall be staggered with spacing no less than 60mm. Fastener shall be made of rail joint.

Tianjin Port Engineering Design and Consulting Ltd of China Communication Construction Company		Project No.	CP-06-110
Principal of Project	Date	Submission No.	
Approved By	Date	Phase	Shop Drawing
Chief Designer	Date	Project Subject	
Checked By	Date	Scale	See Drawing
Corrected By	Date	Drawing Name	50mm Frame Rail Installation Drawing
Designed By	Date	Drawing No.	ITZ-30
Plotted By	Date		