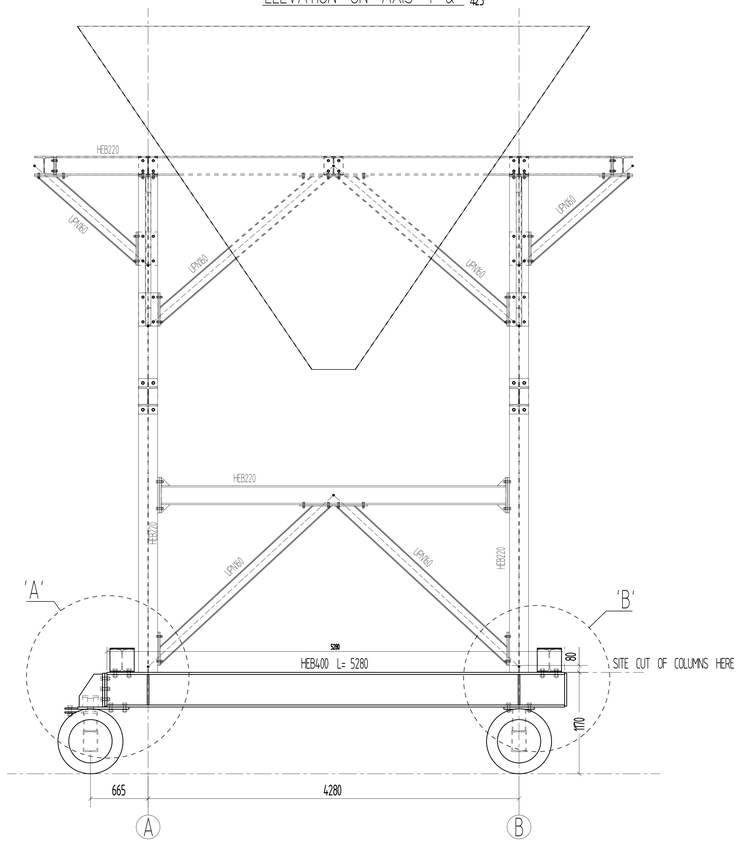
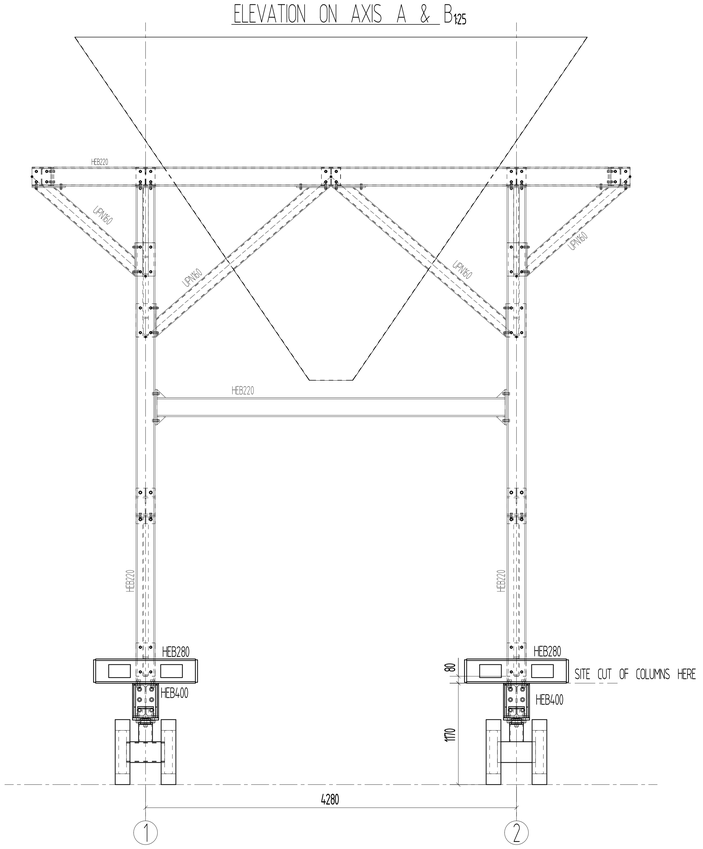
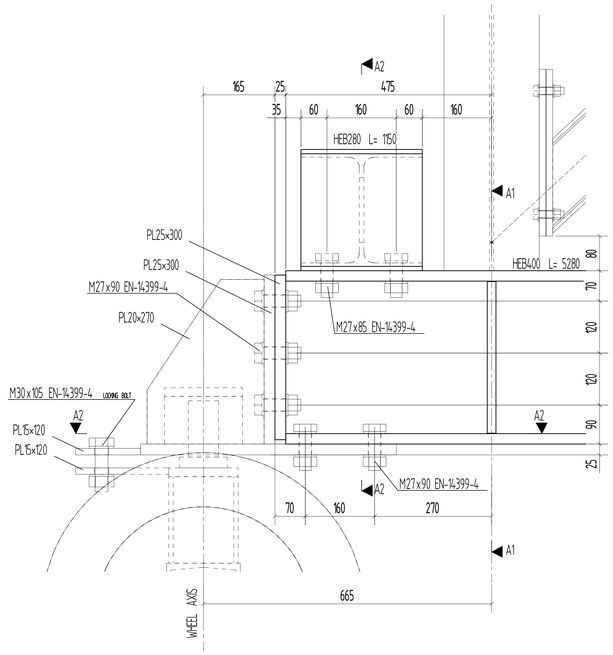
ELEVATION ON AXIS 1 & 2 1:25



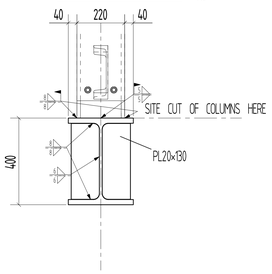
ELEVATION ON AXIS A & B 1:25



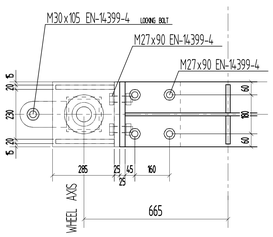
DETAIL 'A' 1:5 ROTATING WHEEL



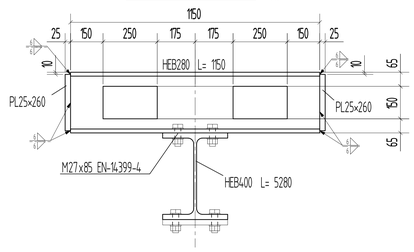
SECTION A1-A1 1:10



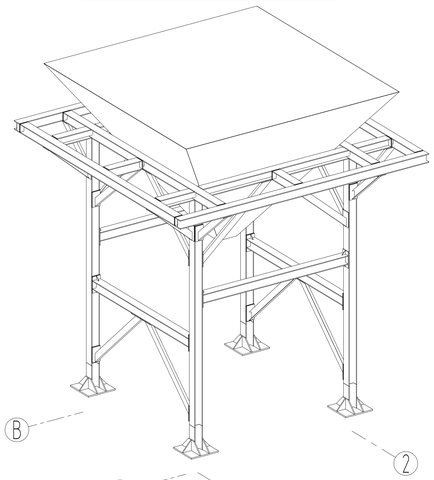
SECTION A2-A2 1:10



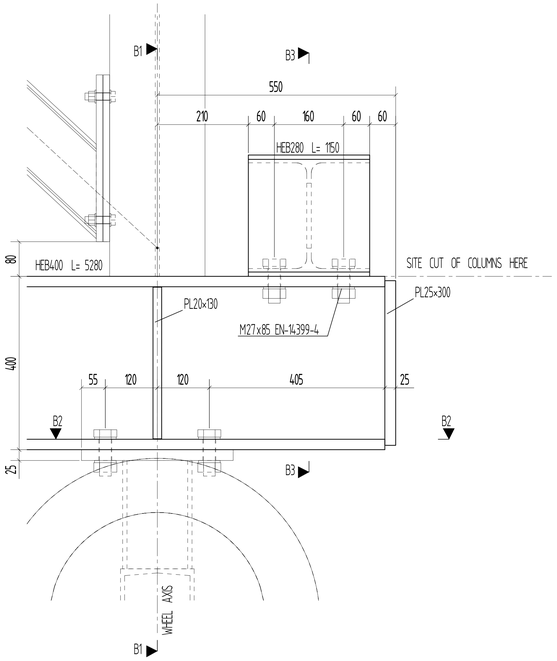
SECTION A2-A2 1:10



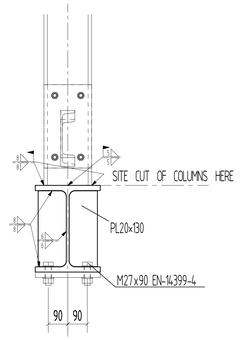
3D VIEW - EXISTING STRUCTURE



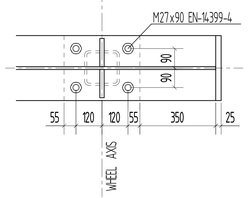
DETAIL 'B' 1:5 FIXED WHEEL



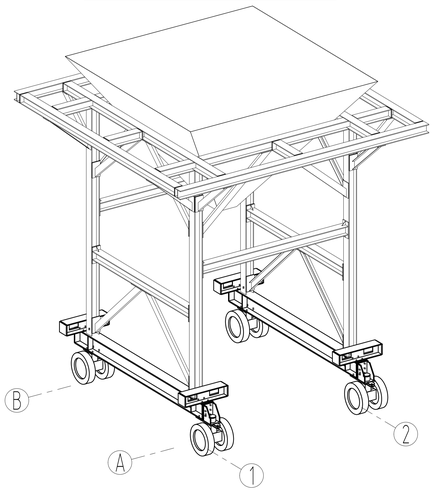
SECTION B1-B1 1:10



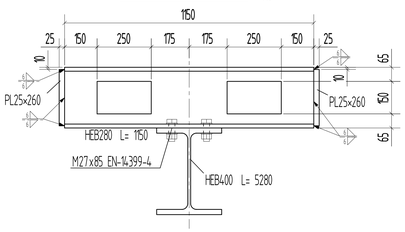
SECTION B2-B2 1:10



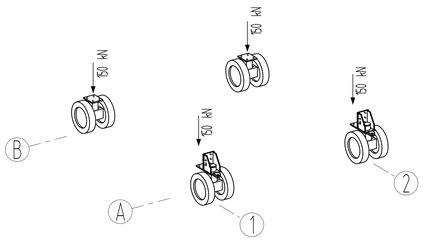
3D VIEW - MODIFIED STRUCTURE



SECTION B3-B3 1:10



3D VIEW - MAX LOAD PER TWIN WHEEL



Grating 30×3	Grating 30×3, slip resistant
Chequered bulb plate 8/10	Ventilation louvre
Trapezoidal sheet e.g. HOESCH TBS.1, t=0.88	Grating 50×5
Grouting, non-shrinking e.g. Pagel V1/50	Visible Edges
Reinforced Concrete	Hidden Edges
Reinforced Concrete at Elevation	Center Lines / Axes
Masonry	Edge of Floor Covering
Sub Soil	Railing
Gravel / Backfill	Mechanical equipment
Polysterene-Board	Supply by Others

+5.000 T.O.S. - Top of steel
+5.000 T.O.C. - Top of concrete
+5.000 T.O.F. - Top of floor
+5.000 B.O.S. - Bottom of steel
Support / Suspension points or Elevations in Plan Views
weld on site
drill on site
Span of Grating / Trapezoidal Sheets
Existing Buildings / Building Parts

Related documents and lists: Structural Analysis — Nr.: 20191000-CN-001

Steel grades acc. DIN EN 10025: S235JR ⇒ acc. to materiallist

Extended Through Thickness Properties (Z-Quality) acc. DIN EN ISO 10164
Unless other specified at steel list, the following Z-Qualities have to be used

Plate Thickness (mm)	t ≤ 20	20 < t ≤ 30	30 < t ≤ 40	40 < t
Z-Quality	Z15	Z25	Z25	Z35
Material Testing	-----	USP	USP + ABV	USP + ABV

USP - Ultra Sonic Test acc. DIN EN 10160
ABV - Weld Bead Bent Test acc. SEP 1390

All bolts supllied as complete set and hot dip galvanized.
All bolts of grade 10.9 (acc DIN EN ISO 14399-4) to be supplied with two washers (DIN EN 14399-6).
All high strength bolts grade 10.9 have to be preloaded with 100% of Reduced Preload Force $F_{p,R}$ acc. DIN EN 1993-1-8/NA (Germany).
Material grades for bolts acc. DIN EN ISO 898-1
The steel contractor / mounting firm has to ensure, that the specified preloading forces are attained on site. For this purpose the preloading methods in DIN EN 1090-2 and DIN EN 1993-1-8/NA (Germany) are permissible. The tightening torques depend on used preloading method and can be taken from the corresponding European standard. The use of modified torques method nach DIN EN 1993-1-8/NA (Germany) is recommended

Bolt Diameter	M12	M16	M20	M22	M24	M27	M30	M36
Preload Force $F_{p,R}$ kN	50	100	160	190	220	290	350	510

Bolt Description
Bolts Grade: 10.9
⇒ e.g. HV - M20x100
Bolts: acc. DIN EN ISO 14399-4
Nuts: acc. DIN EN ISO 14399-4
Washers (2x per set): acc. DIN EN ISO 14399-6

Unless other specified, tolerances and conditions of DIN EN 1090-2 and DIN EN 13920 shall apply: DIN EN 1090-2 EXC 2; DIN EN 13920 class N/A

Elongation Steel Member [mm]		Tolerance [mm]
L	0 - 2.000 mm	+3mm / -1mm
L	2.000 - 6.000 mm	+3mm / -2mm
L	6.000 - 10.000 mm	+3mm / -3mm
L	10.000 - 16.000 mm	+3mm / -4mm
L	uber 16.000 mm	+3mm / -5mm

Elongation L is defined as, Opening size or complete lenghth of steel members incl. welded side parts.

Coating acc. DIN EN ISO 12944
Surface Preperation acc. DIN 55 928/ ISO 8501

Corrosive classification	Aspired Lifespan	Derusting Degree

Standard Detail for all jog of beams: min R 30 mm
Projektion Methoc: Method 1 acc. DIN ISO 5456-2

Example Given of Coating-System acc. DIN EN ISO 12944

System number	Layers	Total thickness (µ m)

Hot dip galvanizing acc. DIN EN ISO 1461 / DIN EN ISO 14713 / DASt-RiLi 022
Surface Preperation acc. DIN 55 928/ ISO 8501

Corrosive classification	Aspired Lifespan (Years)	Derusting Degree	Thickness (µ m)
–	–	–	–

Welding Technology:
Welding Technique details to be specified by the welding engineer of the performing company
All welding dimensions given as throat length acc DIN EN ISO 2553-A.
Thickness of undimensioned welds a=4mm (throat lenght)
a = Throat lenght
Quality level for-imperfections of welding seams acc. DIN EN ISO 5817: 2003

ΟΡΓΑΝΙΣΜΟΣ ΛΙΜΕΝΟΣ ΒΟΛΟΥ Α.Ε.

ΔΙΕΥΘΥΝΣΗ ΤΕΧΝΙΚΩΝ ΥΠΗΡΕΣΙΩΝ

ΕΝΙΣΧΥΣΗ ΚΑΙ ΜΕΤΑΤΡΟΠΗ ΣΤΑΘΕΡΟΥ ΙΚΡΙΩΜΑΤΟΣ HOPPER ΣΕ ΚΙΝΟΥΜΕΝΟ

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AUTHORITIES APROVAL:

We reserve all right for this drawing. All dimesnions to be proved on site.
Keep th conditions of DIN EN 1993 and DIN EN 1090
The executing contractor will be solely responsible for stabilization and executing of scaffoldings during construction phase and for stabilization of all building parts during erection.

Index	Reason	Date	Name
5.			
4.			
3.			
2.			
1.			
0.	ISSUED FOR TENDER	25/06/2019	KM.

Scale	Size	Drawn by	Checked by	Project no.	Drawg no.
125/110/15	A0	K.M.	A.T.	2019-10-00	20191000-DW-001

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