



VĨNH HƯNG®



Vietnam Value

Proud to be

VIETNAM'S NATIONAL BRAND

VINH HUNG TRADING, CONSULTING
AND CONSTRUCTION JOIN STOCK COMPANY

DISC BEARINGS



CERTIFIED
ISO 9001



0008

1. PRODUCT OVERVIEW

- Disc bearings manufactured by Vinh Hung Investment and Production Co., Ltd. (Vinh Hung IP) comply with AASHTO LRFD standards.
- The disc bearings meet the requirements for high load capacity, displacement, and large rotational angles.
- Disc bearings have been used in railway and road bridge projects. They provide a solution for bearing heavy loads in bridge projects, particularly railway and road bridges, due to the elasticity and durability of the PU rotational element.

2. PRODUCT CHARACTERISTICS

- Disc Bearings consist of a polyether urethane structural element (elastomeric disc) confined by upper and lower steel bearing plates. Equip disc bearings with a shear restriction mechanism (shear pin) to prevent movement of the disc. The elasticity of the disc allows the upper plate to rotate around any horizontal axis. The rotational capability is further enhanced by a "V" groove along the outer edge of the disc. A shear pin located at the center of the PU disc absorbs horizontal forces and keeps the upper and lower plates in their correct positions
- Disc bearings are categorized into two main types:
 - + Fixed bearings
 - + Sliding bearings

The sliding bearings include free sliding bearing and guided sliding bearing.

- To ensure durability and a long service life, the upper and lower plates of the disc bearing are protected against corrosion by methods such as two-component Epoxy-based coating, PU (Polyurethane) coating, hot-dip galvanizing according to ASTM A123, and particularly metal spraying with Al-Mg (95% Al and 5% Mg), which ensures corrosion protection for up to 100 years, as proven by 6000-hour salt spray testing according to ASTM B117.

3. PRODUCTION INFORMATION

Based on the characteristics, disc bearings are divided into three types:



4. TECHNICAL PARAMETERS

Table 1: Key Specifications of Fixed Disc Bearing

Vertical load at service limit state (KN)	Horizontal load at service limit state (KN)	Rotation (Rad)
800	80	0.02
1000	100	0.02
1250	125	0.02
1500	150	0.02
2000	200	0.02
2500	250	0.02
3000	300	0.02
3500	350	0.02
4000	400	0.02
5000	500	0.02
6000	600	0.02
7000	700	0.02
8000	800	0.02
9000	900	0.02
10000	1000	0.02
12500	1250	0.02
15000	1500	0.02
17500	1750	0.02
20000	2000	0.02
22500	2250	0.02
25000	2500	0.02
27500	2750	0.02
30000	3000	0.02

Table 2: Main parameters of guided sliding disc bearing

Vertical load at service limit state (KN)	Horizontal load at service limit state (KN)	Rotation (Rad)	Longitudinal movement (mm)			Transverse movement (mm)
			Type 1	Type 2	Type 3	
800	80	0.02	± 50	± 100	± 150	± 0
1000	100	0.02	± 50	± 100	± 150	± 0
1250	125	0.02	± 50	± 100	± 150	± 0
1500	150	0.02	± 50	± 100	± 150	± 0
2000	200	0.02	± 50	± 100	± 150	± 0
2500	250	0.02	± 50	± 100	± 150	± 0
3000	300	0.02	± 50	± 100	± 150	± 0
3500	350	0.02	± 100	± 150	± 200	± 0
4000	400	0.02	± 100	± 150	± 200	± 0
5000	500	0.02	± 100	± 150	± 200	± 0
6000	600	0.02	± 100	± 150	± 200	± 0
7000	700	0.02	± 100	± 150	± 200	± 0
8000	800	0.02	± 100	± 150	± 200	± 0
9000	900	0.02	± 100	± 150	± 200	± 0
10000	100	0.02	± 150	± 200	± 250	± 0
12500	1250	0.02	± 150	± 200	± 250	± 0
15000	1500	0.02	± 150	± 200	± 250	± 0
17500	1750	0.02	± 150	± 200	± 250	± 0
20000	2000	0.02	± 150	± 200	± 250	± 0
22500	2250	0.02	± 150	± 200	± 250	± 0
25000	2500	0.02	± 150	± 200	± 250	± 0
27500	2750	0.02	± 150	± 200	± 250	± 0
30000	3000	0.02	± 150	± 200	± 250	± 0

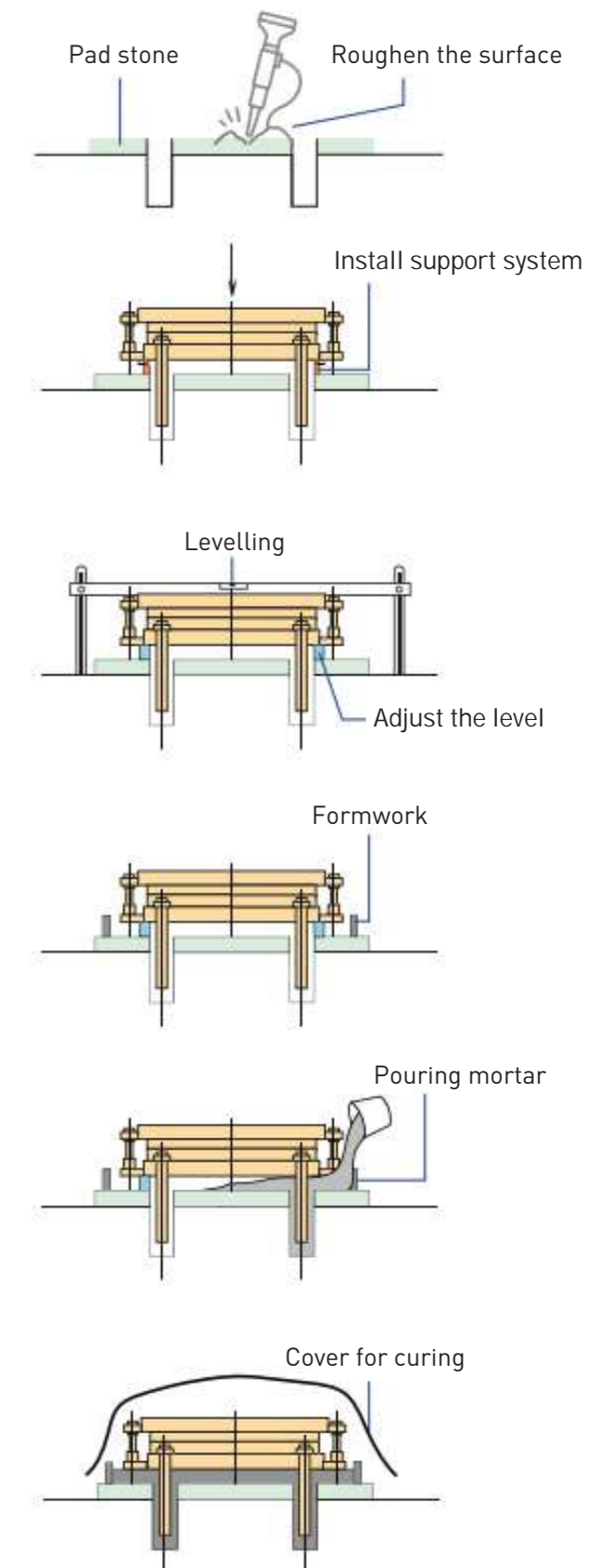
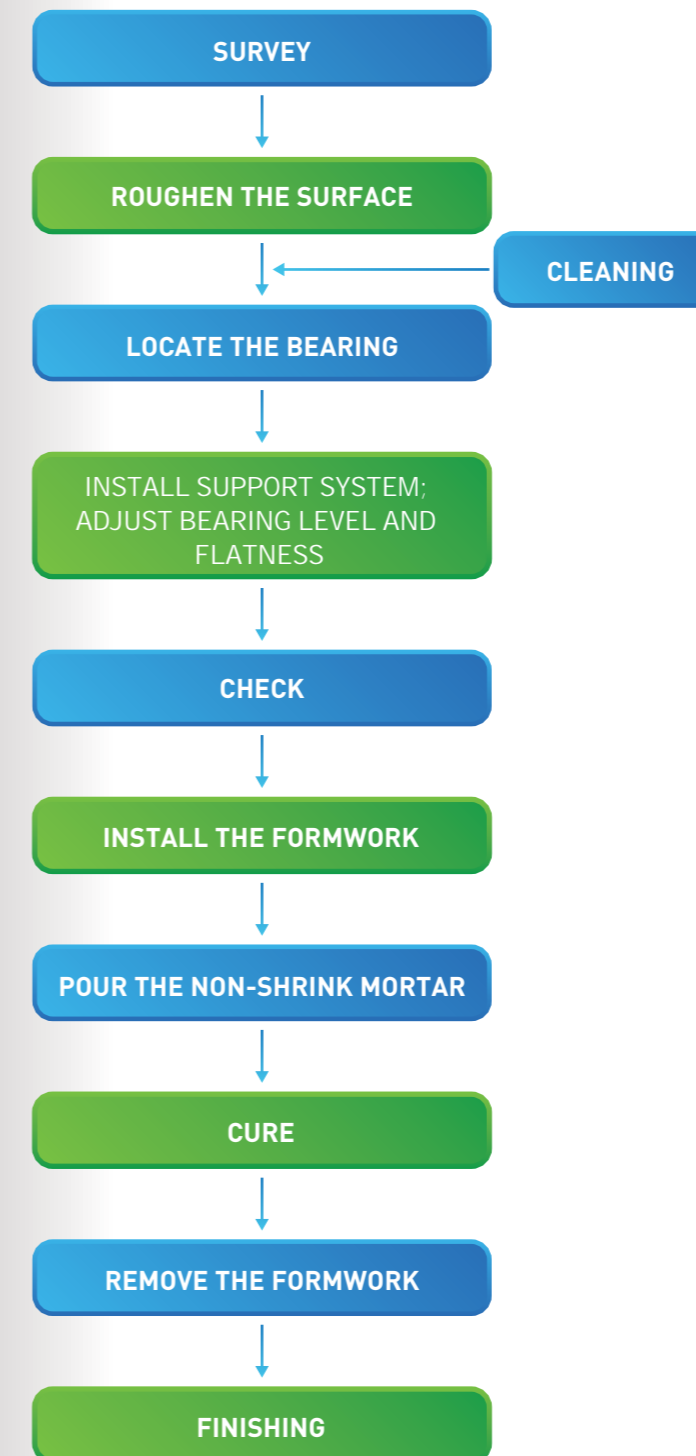
Table 3: Main parameters of free sliding bearing

Vertical load at service limit state (KN)	Horizontal load at service limit state (KN)	Rotation (Rad)	Longitudinal movement (mm)			Transverse movement (mm)
			Type 1	Type 2	Type 3	
800	48	0.02	± 50	± 100	± 150	± 40
1000	60	0.02	± 50	± 100	± 150	± 40
1250	75	0.02	± 50	± 100	± 150	± 40
1500	90	0.02	± 50	± 100	± 150	± 40
2000	120	0.02	± 50	± 100	± 150	± 40
2500	150	0.02	± 50	± 100	± 150	± 40
3000	180	0.02	± 50	± 100	± 150	± 40
3500	210	0.02	± 100	± 150	± 200	± 40
4000	240	0.02	± 100	± 150	± 200	± 40
5000	300	0.02	± 100	± 150	± 200	± 40
6000	360	0.02	± 100	± 150	± 200	± 40
7000	420	0.02	± 100	± 150	± 200	± 40
8000	480	0.02	± 100	± 150	± 200	± 40
9000	540	0.02	± 100	± 150	± 200	± 40
10000	600	0.02	± 150	± 200	± 250	± 40
12500	750	0.02	± 150	± 200	± 250	± 40
15000	900	0.02	± 150	± 200	± 250	± 40
17500	1050	0.02	± 150	± 200	± 250	± 40
20000	1200	0.02	± 150	± 200	± 250	± 40
22500	1350	0.02	± 150	± 200	± 250	± 40
25000	1500	0.02	± 150	± 200	± 250	± 40
27500	1650	0.02	± 150	± 200	± 250	± 40
30000	1800	0.02	± 150	± 200	± 250	± 40

5. MATERIAL SPECIFICATIONS

Item	Unit	Required Value	Testing Standard
A. Disc PU			
Hardness Shore D	Point	55±5	ASTM D2240
Tensile Stress	MPa	13	ASTM D412
Elongation at Break 100%, min	MPa	23	
Elongation at Break 200%, min			
Tensile Strength, min	MPa	34	ASTM D412
Ultimate Elongation, min	%	285	ASTM D412
max Compression after 22 hours at 70 °C, max	%	40	ASTM D395
B. UHMWPE Sheet			
Tensile Strength, min	MPa	30	ASTM D638
Ultimate Elongation, min	%	250	ASTM D638
Density	g/cm ³	0.92 ~ 0.96	ASTM D792
C. Stainless Steel Plate			
Tensile Strength, min	MPa	515	ASTM A240M
Yield Strength, min	MPa	205	ASTM A240M
Elongation, min	%	40	ASTM A240M
D. Structural Steel			
Tensile Strength, min	MPa	450	ASTM A709M or equivalent
Yield Strength, min	MPa	345	
Elongation, min	%	23	
E. Bolt			
Tensile Strength, min	MPa	800	ASTM A325 or equivalent
Yield Strength, min	MPa	640	
Elongation, min	%	14	

6. INSTALLATION GUIDELINES



**VINH HUNG TRADING, CONSULTING
AND CONSTRUCTION JOIN STOCK COMPANY**

HEAD OFFICE

Address: Lot BT2, No. 49, Bac Linh Dam Area,
Dinh Cong Ward, Hanoi City, Vietnam
Tel: +84 24 3540 1771 / +84 24 3540 2468

HO CHI MINH CITY BRANCH

Address: No. 12/18 Dao Duy Anh Street,
Duc Nhuan Ward, Ho Chi Minh City, Vietnam
Tel: +84 28 3526 4188

DA NANG REPRESENTATIVE OFFICE

Address: Room 303, Building No. 309 Nguyen Huu Tho Street,
Hoa Cuong Ward, Da Nang City, Vietnam
Tel: +84 236 367 3366

VINH HUNG INVESTMENT AND PRODUCTION COMPANY LIMITED

Address: Pho Noi Textile Industrial Park,
Duong Hao Ward, Hung Yen Province, Vietnam
Tel: +84 221 399 1399 / +84 221 399 1398

Website: vinhhungjsc.com
Email: info@vinhhungjsc.com

