VHPD PENDULUM BEARING

CERTIFIED
ISO 9001

1. PRODUCT OVERVIEW

VHPD Pendulum Bearing manufactured by Vinh Hung Investment and Production Company Limited (Vinh Hung IP) is capable of withstanding high loads and movements and suitable for structures requiring big rotation angle in all directions and structures in seismic zone. VHPD Pendulum bearing is designed and manufactured according to current standards such as: **EN 15129**, etc

2. PRODUCT CHARACTERISTICS

VHPD Pendulum Bearing is designed based on the working principle of a pendulum. They allow the horizontal displacement of structure, providing the required shift in the natural period of the structure. Once activated by an earthquake, the isolators will allow the decoupling of the supported structure from the ground motion. After the seismic event, the restoring force due to gravity will bring it back towards the center position. The performance of the device mainly depends on its radius of curvature and the coefficient of friction.

VHPD Pendulum Bearing with curved surface sliders reliably serves the following main functions:

• Under service conditions, the devices are designed to transmit vertical forces and allow for horizontal displacements.

• In case of an earthquake, lateral flexibility is achieved through the sliding of an element along the primary curved surface.

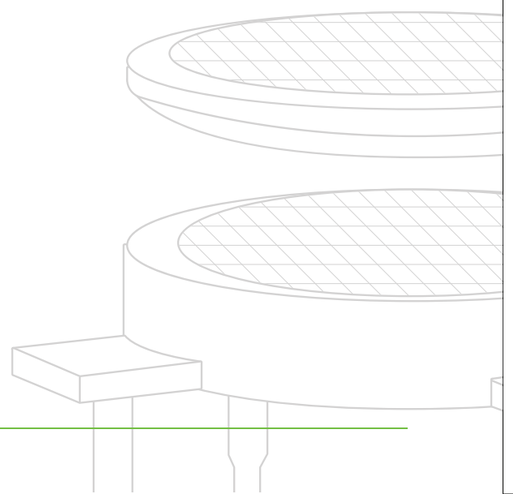
• Energy dissipation is produced by the dynamic friction between the sliding stainless steel surface and the high performance sliding material.

• Finally, the re-centering function is given by the combination of gravity and geometry of the device's design.

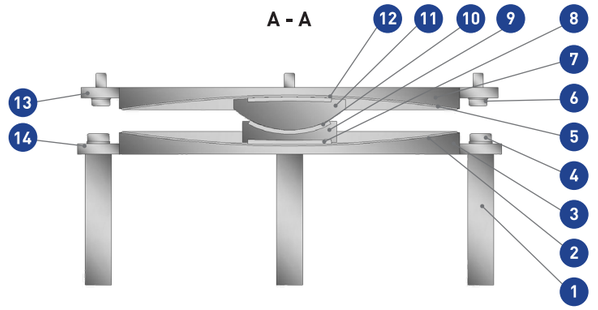
VHPD Pendulum Bearing provides the structure with sufficient flexibility so that the natural period of the structure differentates as much as possible from the natural period of the earthquake. This prevents the occurrence of resonance, which could leads to severe damage or even collapse of a structure.

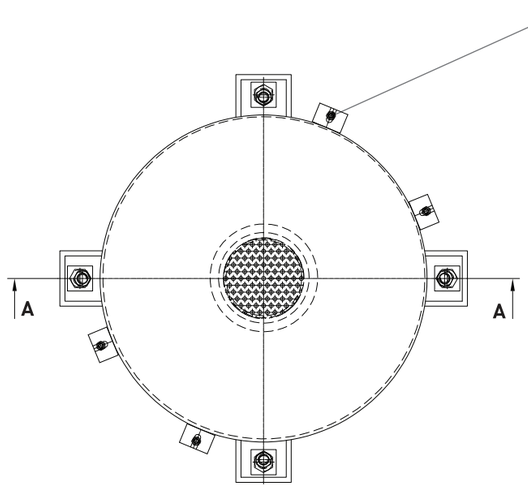
VHPD Pendulum Bearing includes two primary curved sliding surfaces. This allows higher horizontal displacements to be facilitated with smaller dimensions. It includes a rocking element equipped with an articulation element that allows the bearing to accommodate rotations. This is an essential feature, especially for bridges which require high displacements and significant rotational capacity.

To ensure the long-life durability, **VHPD Pendulum bearing** is protected against corrosion by the following methods: coating with two-component epoxy, PU-based painting (Polyurethane), hot dip galvanization according to ASTM A123 standards and especially the Al – Mg spray coating method (at the ratio of 95% Al and 5% Mg) which ensures the anti-corrosion durability of up to 100 years, this method is proved by the salt-spraying test in 6000 hours (8-hour dry-wet cycle) according to ASTM B117.



3. PRODUCT INFORMATION





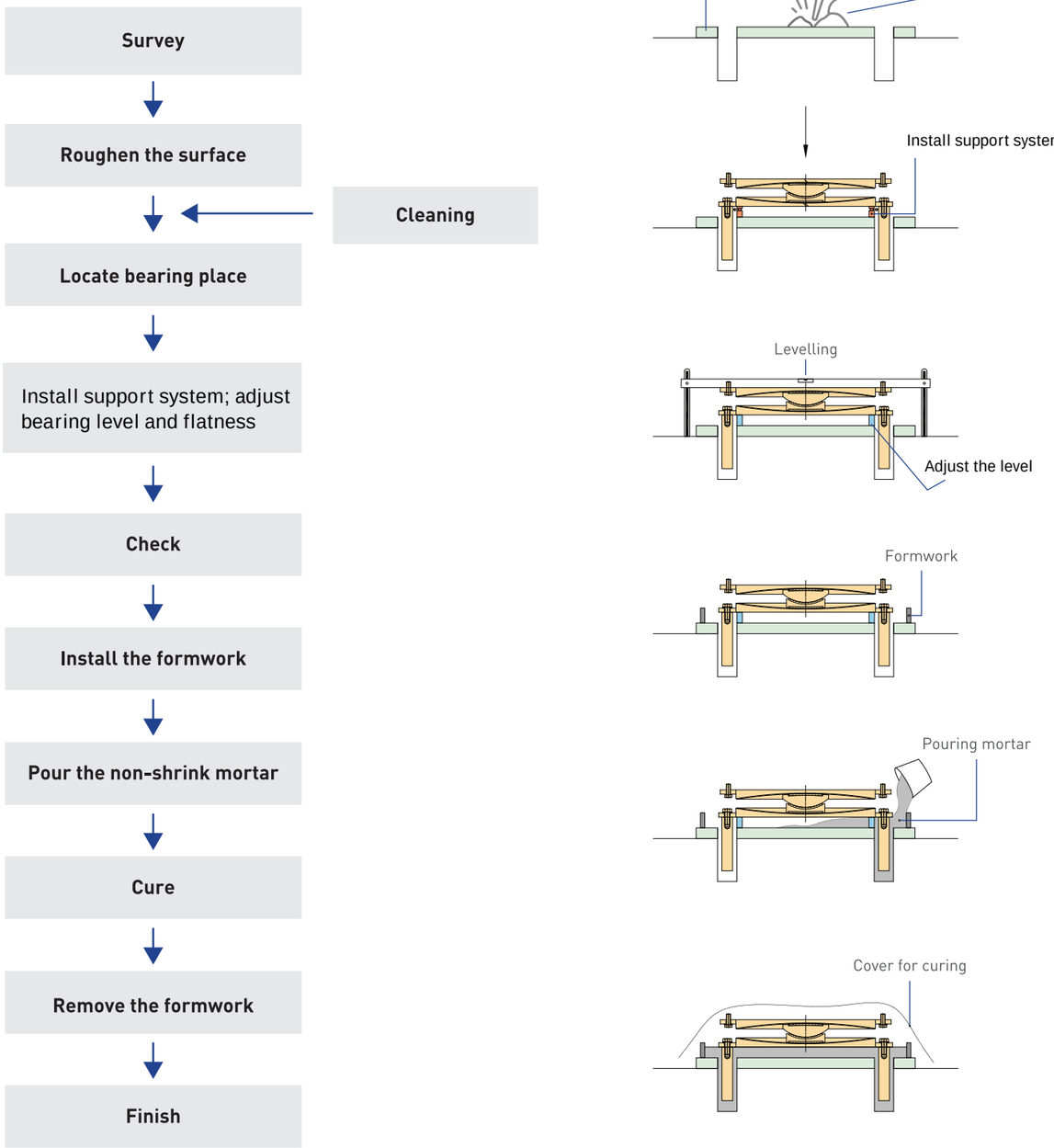
1. Dowel
2. Lower stainless steel sheet
3. Lower sliding plate
4. Lower bolt
5. Upper stainless steel sheet
6. Upper bolt
7. Upper sliding plate
8. UHMWPE sheet type 1
9. Lower part
10. UHMWPE sheet type 2
11. Calotte
12. UHMWPE sheet type 3
13. Upper Lug for Anchoring
14. Lower Lug for Anchoring
15. Threaded bars for transportation

4. TECHNICAL PARAMETERS

Type	Vertical Load Nsd (kN)	Sliding plate diameter (mm)			
		dbd = ±100	dbd = ±200	dbd = ±300	dbd = ±400
VHPD-2	2000	320	460	600	740
VHPD-3	3000	360	490	630	770
VHPD-4	4000	390	530	660	800
VHPD-5	5000	410	550	690	830
VHPD-6	6000	450	580	720	860
VHPD-7	7000	480	620	760	890
VHPD-8	8000	510	650	790	930
VHPD-9	9000	550	680	820	960
VHPD-10	10000	580	710	850	990
VHPD-11	11000	600	740	880	1010
VHPD-12	12000	630	770	900	1040
VHPD-15	15000	690	830	970	1100
VHPD-20	20000	780	920	1060	1200

Important Note: This table is intended to be used only as a preliminary reference for the design of the isolator. The final design and technical details will be fully defined once all the parameters of the project, such as natural period and seismic conditons, are considered in the final design.

5. INSTALLATION



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