

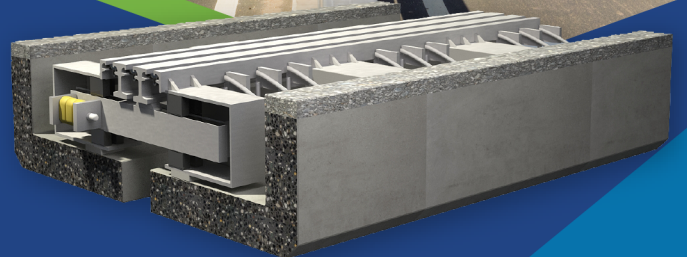


VĨNH HUNG IP®



**VINH HUNG INVESTMENT
AND PRODUCTION
COMPANY LIMITED**

VHM
MODULAR EXPANSION JOINT



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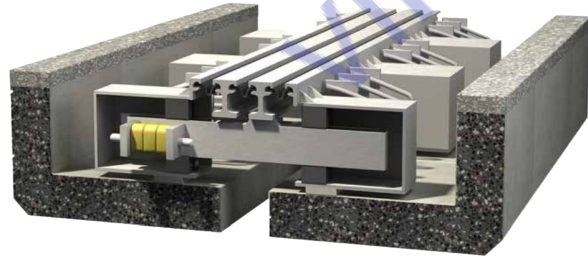
1. PRODUCT OVERVIEW

VHM joint made by Vinh Hung Investment and Production Company Limited (Vinh Hung IP) is composed of multiple steel rails in combination with supporting beams and special structural accessories. VHM - modular expansion joint accommodates to longitudinal movement from 160mm and above. Expansion joint is connected to the bridge deck through the anchoring reinforced system. Rubber seal serves as drainage trough and protect the system from dust and debris.



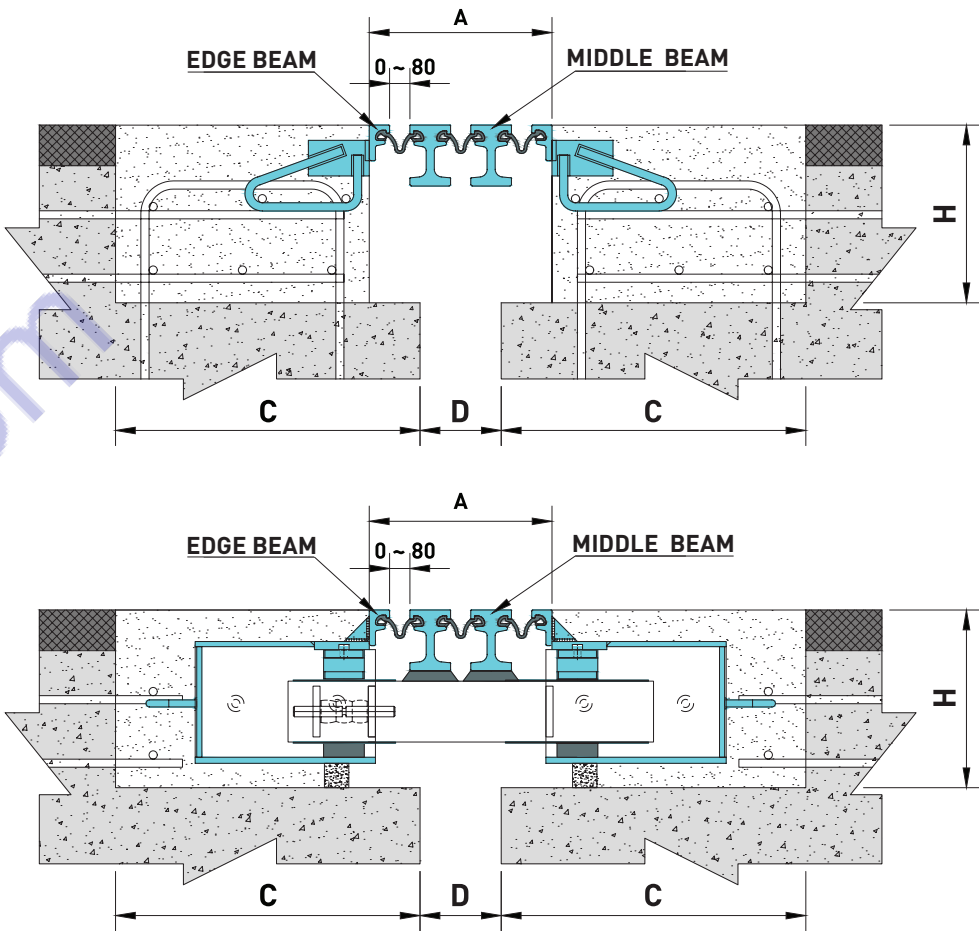
2. PRODUCT CHARACTERISTICS

- Design and manufacture according to AASHTO-LRFD, TCVN 11823 – 2017 standards.
- Allow longitudinal movement of up to 720mm, vertical and horizontal movements are in accordance with AASHTO standards.
- Be able to withstand high load with stable and durable structure.
- Ensure level and smooth surface for traffic.
- Each center beam is fixed with an independent supporting bar, which satisfies the requirement of the fatigue limit C (AASHTO 2007).
- Protected with high anti-corrosive coating layer and treated with anti-slip coating technology.
- Totally watertight.



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3. TECHNICAL PARAMETERS



MODEL	DISPLACEMENT MM	A		C MM	D		H MM
		MM			MM		
		MIN	MAX		MIN	MAX	
VHM - 160	160	160	320	360	40	200	350
VHM - 240	240	240	480	420	40	280	350
VHM - 320	320	320	640	500	50	370	350
VHM - 400	400	400	800	580	50	450	350
VHM - 480	480	480	960	640	60	540	350
VHM - 560	560	560	1120	700	60	620	350
VHM - 640	640	640	1280	800	60	700	350
VHM - 720	720	720	1440	880	60	780	350

4. PROPERTIES OF SEAL

A. BEARING AND SPRING

NO.	ITEMS		UNIT	REQUIREMENT	STANDARD
1	Hardness		Point	60 ± 5	ASTM D2240
2	Tensile strength, min		Mpa	15.5	ASTM D412
3	Elongation at break, min		%	350	ASTM D412
4	Deformation in Ozone (content of Ozone in the air: 100pphm, 20%. Deformation at 38°C x 70h)			No crack	ASTM D1149
5	Heat resistance (100°C x 70h)	Change of hardness, max	Point	0~15	ASTM D573
		Change of tensile strength, max	%	-15	
		Change of elongation, max	%	-40	

B. RUBBER SEAL

NO.	ITEMS		UNIT	REQUIREMENT	STANDARD
1	Hardness		Point	65 ± 5	ASTM D2240
2	Tensile strength, min		Mpa	7	ASTM D412
3	Elongation at break, min		%	250	ASTM D412
4	Ozone resistance (content of ozone in the air 100pphm, 20% deformed at 40°C x 70h)			No crack	ASTM D1149
5	Heat resistance (100°C x 70h)	Change of hardness, max	Point	0 - 15	ASTM D573
		Change of tensile strength, max.	%	-20	
		Change of elongation, max.	%	-40	

5. PROPERTIES OF METAL PARTS

A. STRUCTURAL STEEL

NO.	ITEMS		UNIT	REQUIREMENT	STANDARD
1	Yield strength, min		Mpa	345	A 709
2	Tensile strength, min		Mpa	450	
3	Elongation at break, min		%	21	

B. STRUCTURAL STEEL

NO.	ITEMS		UNIT	REQUIREMENT	STANDARD
1	Yield strength, min		Mpa	250	A 709
2	Tensile strength, min		Mpa	400 - 550	
3	Elongation at break, min		%	20	

C. STAINLESS STEEL

NO.	ITEMS		UNIT	REQUIREMENT	STANDARD
1	Yield strength, min		Mpa	205	A 240
2	Tensile strength, min		Mpa	515	
3	Elongation at break, min		%	40	

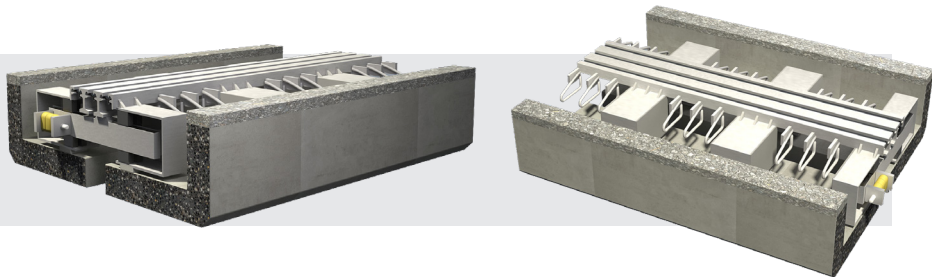
6. PROPERTIES OF SLIDING PLATE

NO.	ITEMS	UNIT	REQUIREMENT	STANDARD
1	Tensile strength - min	Mpa	19	D 4895
2	Elongation at break - min	%	200	
3	Density	g/cm ³	2,14 - 2,25	

7. PROPERTIES OF CONTROL SPRINGS

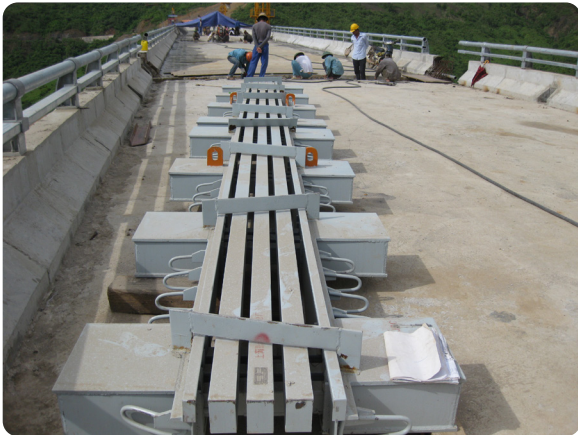
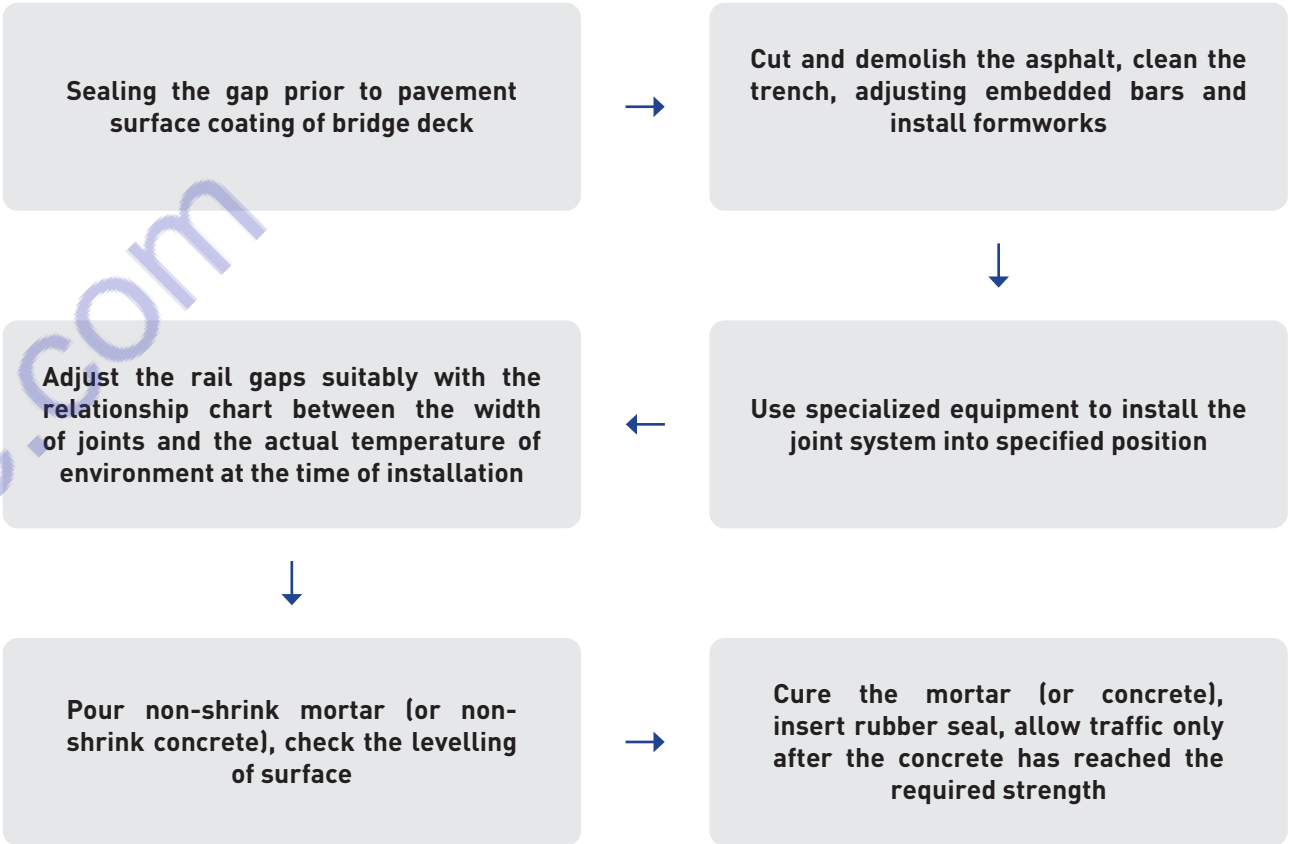
NO.	ITEMS	UNIT	REQUIREMENT	STANDARD
1	Density	kg/m ³	500	Test A
2	Tensile strength	Mpa	6	Test E
3	Elongation	%	400	Test E
4	Tear strength	N/m	17.5	Test F
5	Compression (at 70°C within 70 hours), max	%	6	Test D

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8. INSTALLATION

Installation is critical to the lifespan of the expansion joints. Installation procedures should be implemented in strict compliance with the following steps:



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VINH HUNG INVESTMENT AND PRODUCTION COMPANY LIMITED

Address: Pho Noi Textile and Garment Industrial Park, Di Su Ward, My Hao Town, Hung Yen Province, Vietnam
Tel: +84 221 399 1399 | Email: info@vinhhungjsc.com | Website: www.vinhhungjsc.com