Wabo®MDM TransFlex

Multi-directional Movement Segmental Plate Expansion Joint Assembly

Features	Benefits
Unique Sliding Joint Design	• Complete structural isolation between bridge segments • Shifts service and seismic potential damage away from joint opening
Simple Design Principle of Joint Modules	• Connected elastomeric segmental panel, deck plate, support plate and box/channel assembly • Each module covers half traffic lane • Flexibility in terms of construction, future joint widening or replacement
Large Translational Movements	• Accommodates movements in longitudinal and transverse directions • Accommodates large rotations about the vertical axis and limited vertical movements about the transverse axis
Minimal Noise Disturbance	• Improved ride comfort and suitable for urban areas • Properly installed and aligned modules eliminate rattling noise, material wear and fatigue
Minimum Traffic Disruption	• Maintains full functionality and able to carry traffic safely after a seismic event

RECOMMENDED FOR:

- Large movement expansion joints
- Large joint gap applications
- Expansion joints with seismic potential
- Low height applications
- Rehabilitation or replacement applications where minimizing time and impact to traffic is necessary
- Large span bridges and viaducts
- Accelerated bridge construction projects

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DESCRIPTION:

The Wabo®MDM TransFlex is a unique multi-directional movement (MDM) segmental plate expansion joint assembly designed to accommodate large differential displacements, rotations and service movements as well as seismic movements.

The simplistic design of the assembly is comprised of four main design components: the deck plate, the elastomeric segmental panels, the support plate and the welded channel/box assembly. Unlike other large movement capacity expansion joint technologies, Wabo®MDM TransFlex shifts the expansion component away from the critical joint opening and onto the deck surface. This shift increases the service life of the elastomeric segmental panels.

Wabo®MDM TransFlex is installed in modules. The module design accommodates ease of installation, component replacement as necessary following damaging seismic events, and allows maintenance crews to minimize the impact to traffic and perform inspection by closing one lane at a time.

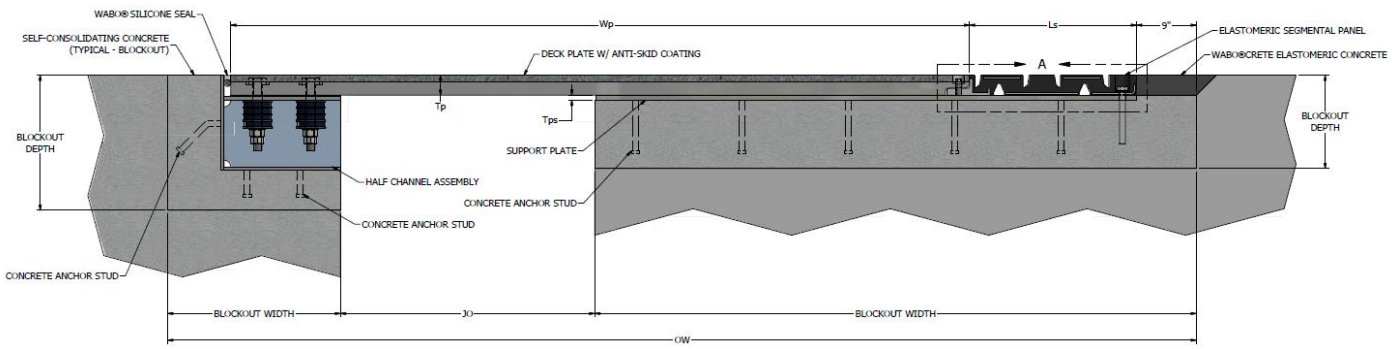
TECHNICAL DATA:

Wabo®MDM TransFlex is designed and manufactured to specific project requirements. Each joint is made to order based on movements, construction sequences, joint configurations and project constraints. Please contact manufacturer with project details for an innovative joint design and solution.

Wabo®MDM TransFlex Design Table:

MODELS	MOVEMENT		STD. MODULE LENGTH (Lm)		RUBBER PANEL WIDTH (Ls) @		RUBBER PANEL BOLT (Dia.)		BRIDGING DECK PLATE (Lp length and Tp thickness)	BLOCKOUT (Height and Width)
	Inch	mm	Inch	mm	Inch	mm	Inch	mm		
MDM-650	6.50	165	72.00	1829	25.00	635	0.875	22	*	*
MDM-900	9.00	230	72.00	1829	30.50	775	0.875	22	*	*
MDM-1600	16.00	400	63.00	1600	26.60	675	0.875	22	*	*
MDM-2000	20.00	500	63.00	1600	32.10	765	0.875	22	*	*
MDM-2400	24.00	600	63.00	1600	37.60	875	0.875	22	*	*
MDM-2800	28.00	700	63.00	1600	43.10	965	0.875	22	*	*
MDM-3200	32.00	800	63.00	1600	48.60	1065	0.875	22	*	*
MDM-1600S	14.00	350	63.00	1600	26.60	675	0.875	22	*	*
MDM-2000S	18.00	450	63.00	1600	32.10	775	0.875	22	*	*
MDM-2400S	21.00	540	63.00	1600	37.60	875	0.875	22	*	*
MDM-2800S	25.00	630	63.00	1600	43.10	975	0.875	22	*	*
MDM-3200S	28.00	720	63.00	1600	48.60	1075	0.875	22	*	*

* To be determined based on project requirements and engineering calculations



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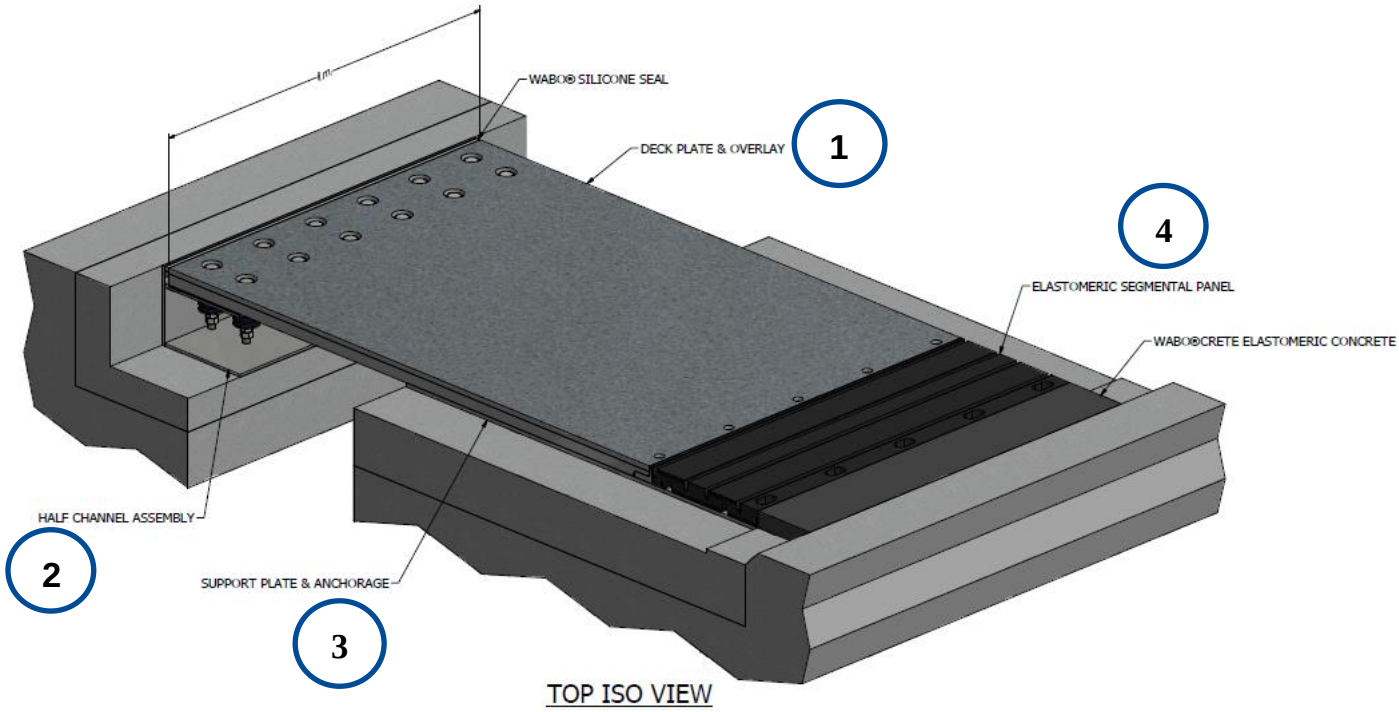

1) **Deck Plate**: The deck plate spans the joint opening with a steel plate with thickness designed by engineering calculations. The deck plate functions as the riding surface over the joint opening as well as carrying the traffic loading into the adjacent substructures.
2) **Channel assembly**: The channel assembly (half or full channel design) houses the precompression components for the deck plate.
3) **Support plate**: The support plate functions as a supportive sliding surface for the deck plate & MDM panel during thermal and/or seismic movements.
4) **MDM panel**: The MDM panel expands and contracts with the bridge movements and acts as part of the riding surface at a distance away from the joint opening.

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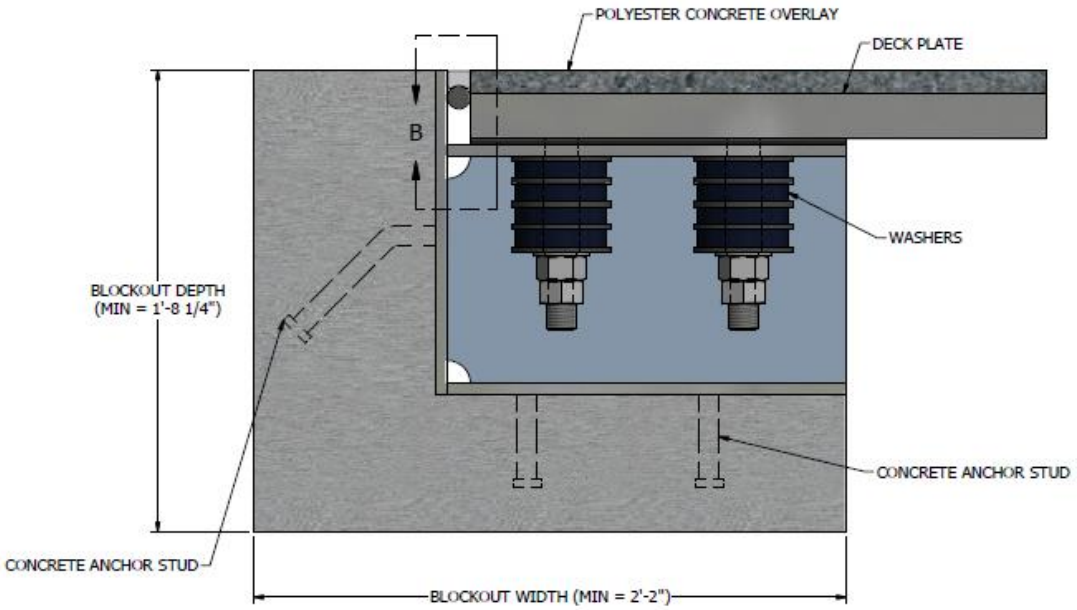
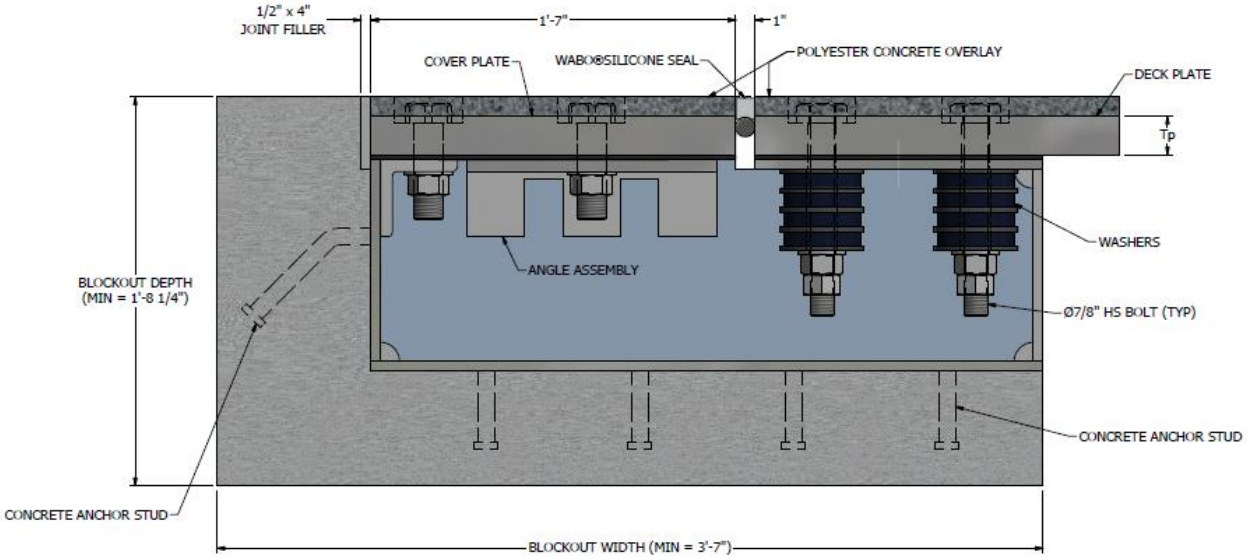
Half Channel Assembly: The half channel box design may be used at any location with a joint opening dimension over 24”. This design allows access to the precompression components for repair or replacement from the joint opening itself, saving the need to access the roadway above.



HALF CHANNEL ASSEMBLY DETAILS

Full Channel Assembly: The full channel box design must be used at any locations where the mid-range joint opening is less than 24” but can also be used at any location with a joint opening over 24”. This design contains a removable cover plate to access the precompression components from the top of the deck for any repairs or replacements.



FULL CHANNEL ASSEMBLY DETAILS

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INSTALLATION SUMMARY:

Preassembled Module Construction sequence:

- Prepare blockout to proper width and depth. Refer to contract plans and approved shop drawings for project specific requirements and configurations
- Place necessary formwork and rebar reinforcement within the blockout area
- Lift and suspend the preassembled module in the joint blockout using the installation assembly devices as shown in the approved shop drawings
- Once system is in position, adjust for structure temperature
- Place any final form work and pour self-consolidating concrete (SCC) below support plates and channel/box assemblies

Field-assembled Module Construction sequence:

- Prepare blockout to proper width and depth. Refer to contract plans and approved shop drawings for project specific requirements and configurations
- Place necessary formwork and rebar reinforcement within the blockout area
- Lift and suspend the channel/box assembly and preassembled module in the joint blockout leaving space for deck plate and elastomeric segmental panel
- Place any final form work and pour self-consolidating concrete (SCC) below support plates and channel/box assemblies
- Bolt the deck plate to the channel/box as shown in the approved shop drawings
- Attach elastomeric segmental panel to deck plate and adjust for structure temperature

FOR BEST RESULTS:

- Install when concrete substrate is clean, sound, dry and cured (14 day minimum)
- Do not install if the joint's anticipated movement will exceed the system's movement range
- Do not allow any of the chemical components to freeze prior to installation. Store all components out of direct sunlight in a clean, dry location between 50˚F and 90˚F
- Shelf life of chemical components is:
    - Wabo®SiliconeSeal = 1 year
    - Wabo®Crete II Concrete = 18mos
- Make certain the most current version of the product data sheet is being used. Please consult the website (www.wbacorp.com) or contact a customer service representative
- Proper application is the responsibility of the user. Field visits by Watson Bowman Acme personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite

RELATED DOCUMENTS:

- Wabo®MDM TransFlex Specification
- Wabo®MDM TransFlex Installation Procedure
- Wabo®MDM Sales Drawing

OPTIONS/EQUIPMENT:

- Temporary Lifting and Setting Device
- Large Transverse Movement Option

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