



# Joint Framer A981




## Mechanical Movement Joint System

### For Bridge, Highway, Lobby, Structural Movement Joint

#### 1.0 Description



Joint Framer A981 is a mechanical joint system facilitated with an alloy backbone for EPDM elastomeric insert which is load bearing, fire retarding, water tightness, excellent impact and abrasion resistance, user and environmental friendly. As a revolution of alloy backbone design of the joint, anchorage of Joint Framer A981 to the deck is achieved by bolt-free adhesive and self-hanging mechanism without need to consume additional metal nosing and cement works; it greatly shortens time and allows flexibility to carry out new and renovation works by phases to match with actual site conditions. Based on tailor-made components/accessories, Joint Framer A981 is flexible to be adapted in numerous different configurations which is designed to fulfill the design requirement of UK Highway Bridge Joint regulation BD33/94 whilst being used to determine the accumulative range of movement imposed by BS5400 Part 2 and residual creep and shrinkage and its relationship by BS5400 Part 4 and 5.

#### 2.0 Standing Components

<p><b>Replaceable EPDM Mechanical Movement /Solids with Alloy Backbone</b> EPDM Solid is manufactured to withstand extreme weather conditions from -40C<sup>0</sup> to +120C<sup>0</sup>, liquid corrosion, heat and UV aging which allow more than 15 years of service life. Joint size range is from 18mm to 180mm and alternatives at kerb-line or into parapet recess or at change on plan of the bridge.</p>	
<p><b>Replaceable, Bendable, self-hanging , protective covering accessories</b> Depending on site conditions and finishing requirement, Pre-cast backbone with screw ports is able to install with either s.s. heavy duty traffic cover , s.s. rotor-hanger, carborundum strip, Air Injection Cap etc.</p>	
<p><b>High Performance MS Polymer Adhesive.</b> Labond Superbond S535e modified Silicone adhesive offers direct permanent bonding between EPDM Solid and adjacent edges of which the material types are concrete, steel, aluminum and most of the polymeric rubber or plastic. It could also serve as connecting and resealing material of EPDM solid without affecting the movement capacity of EPDM Solid</p>	

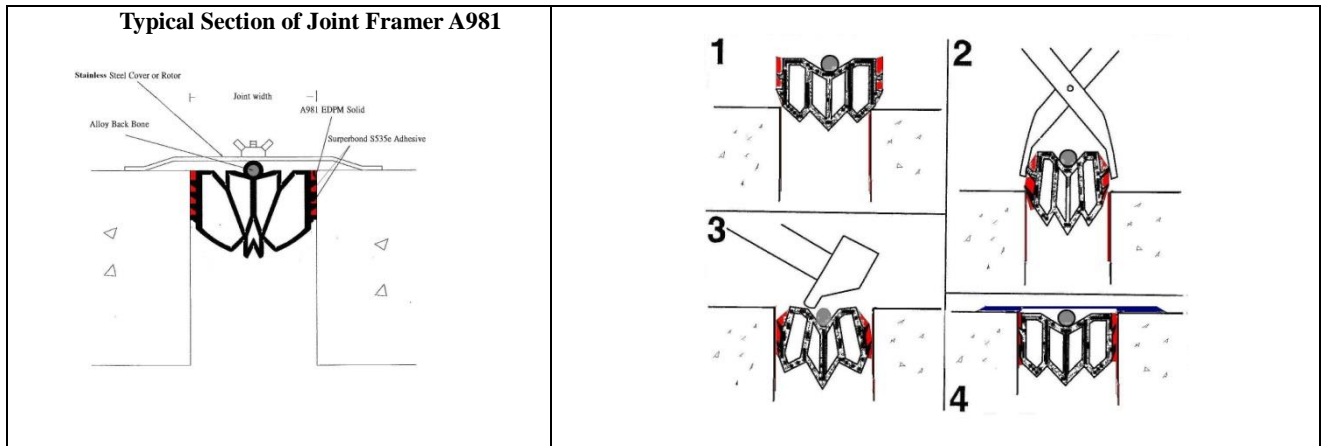
#### 3.0 Technical Data

Model Shape ; Tailor-made size available on request.

	A981-EJ-RS-01	A981-EJ-RS-02	A981-EJ-RS-03
			
Range of Joint Width	18 – 45mm	46 -100mm	> 100mm
	Per Site Condition		
	Particulars/Value		Testing Method
Basic Polymer	EPDM		-
Hardness Scale	75		ASTM D2240 Shore A
Anti-Corrosion	No Corrosion		BS 3900: F12 1997
Resistance to Salt Spray	No Corrosion		BS 3900: F12 1997
Expansion and Contraction Cycle Movement (10 Years Assumption)	7300 Cycles, No Adhesive or Cohesive Failure, Cracks or deformed		GB/T 13477-1992
Adhesion and Tensile Modulus (100% extension after heat aging)	<b>S535e EPDM Cement mortar</b>		BS.4254:1983: clause C.6.4
	Extension Force 184 N	196 N	
	Area of failure none	none	
Fire Retarding (EPDM)	<b>Class 1</b>		BS476 Part 7



**3.0 Design and Installation Detail**



**Steps of Application for resealing work (for new work, start from step 2):**

**(1) Removal of existing seal and surface preparation**

- Clean up existing accumulated rubbish, debris, sand, sitting water etc. from both sides of the joint.
- Carefully cut the adhesive at both sides of the existing expansion joint seal with hand held knife including removing old E.J. seal from its position at a suitable interval until the old material is removed.
- Remove remaining adhesive and clean the E.J. surface with a hand held electrical cutter and brush to be free from dirt & dust.
- Clean the prepared E.J. surface with degreasing agent to be free from oil.

**(2) Preparation before Installation**

- Verify the existing joint size and select the suitable model of A981 seal according to section guide table.
- Install stainless steel screw tubes of the holder into position.
- Cut the prepared EPDM Solid seal to a suitable length according to site measurement.

**(3) Installation**

- Apply a thin layer (approx. 1mm thick) to both sides of E.J. (remove over applied sealer by masking tape method) clean over applied sealant.
- Apply sealant properly to the wing of A981 seal (remove over applied sealant by masking tape method).
- Carefully insert the prepared A981 EPDM solid into the joint from one end to another (May use some holder for temporary positioning).
- Make good Labond Superbond S535e by removing any excess adhesive or compensating off hole area by additional adhesive.
- Install stainless steel hanger or rotor onto position (approx. 500mm interval subject to site condition).
- Finally clean and remove all waste and surplus material.

**Remark:**

- Enhanced installation procedure for an integrated-fit installation against uneven joint width:- A temporary compressed air mechanism can be provided for works where an intensively fit installation is required. The procedure is as follows:-
- Install a ready-made cape end (with air nozzle) at both ends of the EPDM Solid seal installed as described above.
- Pump air into the cavity of whole installed EPDM Solid seal by using hand held air pump. Allow the EPDM Solid seal to expand until tightly fit to both sides of the joint.
- Shut the nozzle and maintain the air tight status for three days until the sealant of the EPDM Solid seal is fully cured.
- Discharge the compressed air by releasing the nozzle to an open position.
- Remain the cap end as permanent part of the system which could allow for future maintenance use.

**4.0 Section Guide Table**

Model No.	Normal Width Of EPDM Solid	Best fit for Concrete MJ at site		State under Stress		Range of Movement Accommodation
		Summer 25C° – 37C°	Winter -4C° – 24C°	Compressed	Extended	
EJ-RS-W25	25mm	18 – 20mm	21 – 23 mm	12mm	40mm	28 mm
EJ-RS-W30	30mm	21 – 23mm	24 – 28 mm	15mm	45mm	30 mm
EJ-RS-W35	35mm	24 – 28mm	29 – 32 mm	18mm	50mm	32 mm
EJ-RS-W45	45mm	29 – 35mm	33 – 40 mm	20mm	65mm	45 mm
EJ-RS-W55	55mm	36 – 45mm	41 – 50 mm	23mm	75mm	52 mm
EJ-RS-W65	65mm	46 – 55mm	51 – 60mm	26mm	85mm	59 mm
EJ-RS-W75	75mm	56 – 65mm	61 – 70mm	32mm	100mm	68 mm
EJ-RS-W85	85mm	66 – 75mm	71 - 80mm	35mm	115mm	80 mm

*For wider joint width or extreme weather conditions , please consult Technical Office of Master Proofer Company Ltd for Details. The above table is for reference only which is subject to assessment of actual climate condition of site territory.*