Shanghai Horse Construction
Product Data Sheet
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HM-120SC

Segmental construction adhesive

Description	HM-120SC is a two component epoxy resin adhesive Application includes assembling of precast concrete components.
Application Range	■ Bridge precast segment joints. ■ Assembly building segment slicing
Product Characteristics	■ High compressive and bonding strength. ■ Non-volatile, non-shrinkage and superior interface performance ■ Aging resistance, water resistance ■ Acid & alkali resistance ■ Excellent workability: thixotropy, sag resistance and long operable time. ■ Non-toxic, aging resistance, corrosion resistance. ■ 50 years durability.
Product Advantages	■ Advanced nano material technology, multi-dimensional mesh structure, good thixotropy. No sagging for both side surface or top surface construction. ■ Good thixotropy, the static stack height can reach 5 cm, non sagging, easy to operate, lower hollow area, avoid waste and rework. ■ Moderate curing time, enough operation time, no need to hurry. ■ Advanced high speed dual planetary power mixing equipment. The raw material is mixed evenly. And by vacuum treatment, there is no bubble. More stable property, longer shelf life. ■ HM-120SC has passed Safety reports, Non toxic test, Horizontal flame test, Non ethanediamine test, Acute oral

Package	Bucket packaging A group: 20kg/barrels; B group:10kg/barrels
Shelf Life	When stored correctly, the shelf life will be at least 12 months from the date of manufacture.
Storage Conditions	Seal and store in dry and clean warehouse of ambient temperature 5℃-40℃.Do not store in the open air or rain. Do not damage the package. A part and B part should be stored separately to avoid mixing.

Technical Parameters

Physical Parameters

Appearance A Part (Epoxy)		Putty like
Appearance B Part (Hardener)		Putty like
Color after mixing		Concrete Grey
Mixture ratio (weight ratio)		2:1
Operable time		≥30min
Bond period		65min
Anti Sag		≤30mm
Compression resistance mm^2	**150N**	⩾4300
	2000N	⩾8000
	4000N	⩾10100
Shrinkage %		⩽0.04
HDT ℃		⩾51.3
Water absorption %		⩽0.2
Water solubility %		⩽0.1
Non-volatile matter content %		⩾99

Compression strength MPa	**12h**	⩾75
	24h	⩾100
	7days	⩾115
Compression modulus MPa	**Instant**	⩾10300
	Time-lapse (1h)	⩾7920
Shear modulus MPa	**Instant**	⩾1650
	Time-lapse (1h)	⩾1250
	Time-lapse (28d)	⩾1080
Tensile E-modulus		⩾4100
Concrete to concrete flexible strength MPa		All damage occur inside the concrete
Concrete to concrete compression shear strength MPa		⩾17
Steel to steel tensile shear strength MPa		⩾19.2
Steel to concrete pull out test bonding strength MPa		Cohesion failed of concrete
Long-term performance	**Wet and heat ageing**	Compared with the short-term results at room temperature,
		the decrease rate of shear strength: ≤12%
	Heat aging resistance	Compared with the short-term results at same temperature 10min,
		the decrease rate of shear strength: ≤5%
	Freezing and thawing	Compared with room temperature, short-term results,
		the shear strength decrease rate is not greater than 5%
	Fatigue stress	After2×10^6 times continuous sine wave fatigue loads,
		specimen does not destroy

	Resistance to stress	Steel - steel tensile shear specimens does not destroy,
		and creep deformation value is less than 0.4 mm
Resistance to corrosion medium	**Resistance to salt**	Compared with the control group, the strength decrease rate: ≤5%,
		and shall not have cracks or come unglued
	Alkaline medium	Compared with the control group, the strength does not decrease,
		and as the concrete damage, and shall not have cracks or come unglued
	Acid medium	Concrete damage, and shall not have cracks or degumming

Application process
1. The bridge-building frame is set up for debugging, and the prefabricated sections are hoisted in place according to the order of collision
2. Clean the concrete of the splicing surface of the box girder to ensure that the splicing surface is flat and clean without concrete residue
3. Perform trial assembly of the segment, lock the assembly angle, and hoist the segment to the designated position.
4. Configure the HM-120SC according to the specified ratio. Stir at low speed until the color is uniform and no bubbles.
5. Install a sealing ring at the pre-stressed nozzle to prevent colloid from entering the pre-stressed pipe.
6. Apply the Hummer segment splicing glue to the surface to be spliced at the same time within the specified time. The total thickness of the glue layer is about 2-3mm. The segments are formally aligned and spliced, and through holes are required before gluing.
7. Install a temporary pre-stressed tension device at the designated position, and apply a pressure of about 0.2-0.3 MPa to the splicing joint.
8. Control the width of the glue seam to be about 1mm. Make sure that the collapsing glue overflows from the glue joints.
9. Clean up the spilled glue and make sure that the prestressed pipe is not blocked.
10. Disturbance should be avoided during curing.

Points for Attention	■ Use within the applicable period ■ Seal the package if any remaining glue, do not expose the glue to the air ■ Temperature will influence the curing High temperature will increase the curing speed. Low temperature will lead to longer curing time. ■ Construction personnel should take the necessary safety protection measures (such as wearing masks, gloves, goggles, etc.) ■ Pay attention to fire and maintain good ventilation on site ■ If stained on skin or clothing, clean it with acetone and rinse with a large amount of water immediately ■ If swallowed or splashed into eyes by accident, please seek medical help immediately
Transportation	This product is not flammable, explosive or toxic. It belongs to non-dangerous goods, transport as a general chemical building material. Do not damage the package or expose to sunshine or rain. Do not incline or invert the goods during transpotation.

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