Table 1: Primer Lucobridge® Primer 2000P – basic test according to TL/TP Bel-EP Test report P 9526 dated 17/09/2015, KIWA

TL/TP-		STANDARD	CONDITION	UNIT		LUCOBRIDGE®	TL-ING TEIL 7	
BEL-EP						PRIMER 2000P	TL-BEL-EP	
3.1	COMPONENTS - IS	OLATED			•••••	3 min / 100 + 2		
3.1.1	Density	ISO 2811	20 ℃	g/cm ³		0.994	± 2%	
3.1.2	Dyn. viscosity	ISO 3219	23 °C, 750 s-1	mPas		110	± 20%	
3.1.3	IR spectrum	DIN 51451	ATR-IR, 4000-500 cm-1			o.k.	No deviation from composition	
3.1.4	TGA	ISO 11358 ISO 7111	35°C - 900°C, 10K/min			1,5 % residue	No deviation from composition	
3.1.5	Bulk density scratch-coating	EN-459-2		g/dm³		N/A	± 0,05 kg/dm³	
3.1.6	Grain sizes allowan- ce of scratch-co- ating					N/A	± 3% abs.	
•••••	•••••••••••••••••••••••	•••••••	•••••••••••••••••••••••••••••	• • • • • • • • • • • • • • • • • • • •	•••••	•••••••••••••••••••••••••••••••••••••••	••••••	
3.2	COMPONENTS – MI	IXED	••••••	Primer/harde	ener ratio	100 + 1 (23°C)		
		•••••••••••••••••••••••••••••••••••••••				100 + 3 (12°C)		
3.2.1	Viscosity	ISO 3219	12°C, 500 s-1	mPa	s	190	≤ 4000	
3.2.2	Ash residue	acc. ISO 3451-1	3 h/ 550°C	%		0	≤ 1 %-Weight	
3.2.3	Pot life	TP-BEL-EP 3.2.3	100 cm³,	min		17	>10 min, ± 25%	
	Max. temperature		23°C-40°C	°C		162		
	Reaction time			min		24		
3.2.4	Curing time	ISO 2815	7 d − 23°C	a. Final hardness		81	≥ 60	
		Curing grade after Buchholz	18 h - 23℃	 b. Indentation resistance c. Indentation resistance 		76	≥ 60	
			40 h – 12°C/85% rF			72	≥ 60	
3.2.5	Moisture sensitivity	TP-BEL-EP 3.2.5	40 h – 12°C/85% rF			o.k.	No white tarnish	
3.2.6	Non-volatile ingre- dients	acc. ISO 3251	3h – 105℃	%		98,7	≥ 98	
3.2.7	Extractable ingre- dients	acc. ISO 6427	16h – n-Hexan	%		2,5 no plasticizer	≤ 11	
3.2.8	Water absorption	acc. ISO 62	14d – 23°C	%		1,8	≤ 2,5	
3.2.9	Consistency of					N/A	Various	
•••••	Schuler country	:	:		•••••	:	:	
3.3	TESTING THE COM		••••••	••••••			:	
3.3.1	Manufacture	acc. ZTV-StB 90 - An	nex 2	••••••	•••••	:	·····	
3.3.2	Free of defects	TP-BFI-FP	silicone - 60 min - 250		> 10.000	> 10.000		
3.3.3	Thermal stress	-						
	Cilicono ol		cilicopo (0 min 25)			no complaint	no complaint	
3.3.3.1	SillCone oll	TTV CIP Ammour 2	100 N/c 22°C		IVIL 2	no complaint		
3.3.3.2	tensile bond strength	Z I V-SID ATITIEX Z	1 UU IN/S, 23 C		19/11)[[]	2,9 100% cohesive break concrete		

LOCATIONS



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Vote

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LUCOBRIDGE® BIT

WATERPROOFING MEMBRANES FOR CONCRETE BRIDGES

WATERPROOFING TECHNOLOGY WITH LUCOBRIDGE®



... Waterproofing that lasts

A NEW APPROACH IN STRUCTURAL

WATERPROOFING

APPLICATIONS

The Lucobridge[®] BIT membranes has been designed to waterproof any Concrete Bridge construction. The advantages of using this innovative membrane system to seal concrete bridge decks lies in its safe and simplified application. The membrane construction results in an extremely tear-resistant but still elastic product.

Consequently, the system has an extended lifetime due to its superior stress-crack resistance, resistance to perforation, penetration and impact, low temperature workability, and thus also contributes to saving of financial resources. The hassle-free, extended lifetime of the system was tried and proven on concrete bridge constructions especially in multi-layer layouts. The system proved superior to the other flamed membranes for waterproofing onto concrete bridge constructions.

PRODUCT

Lucobridge[®] BIT is a single ply membrane with a total thickness of 4,7 mm. It consists of a Lucobit[®] membrane, which is covered with a modified bituminous material of 1,6 mm on both sides. Lucobridge[®] BIT was conceived for single-ply sealing under stone mastics asphalt (SMA), mastic asphalt or bitumi- nous concrete.

Lucobridge® BIT for concrete bridges in combination with Lucobridge® Primer 2000P (proprietary resin priming coat for steel or concrete bridges) complies with ZTV-ING part 7, Section 1.

External tests showed that the Lucobridge[®] BIT system exhibits an optimized interlocking system between the basic bridge construction and the top wearing course asphalt layers. Lucobridge® BIT consists of a 1,6 mm polymer modified bitumen thick ECB (ethylene-copolymer-bitumen) membrane with a glass-fibre mat inlay and polyester mats on both sides. This structure is then covered on both sides by PmB layers (polymer modified bitumen) that can be heat-activated either by (torch-)flame or hot-air directly onto any bridge deck and acts as a heat- and protective shield against hot asphalt mixes to be placed directly on top. This membrane system warrants an excellent cover for any cracks or breaks due to its superior elasticity even after aging.



ADVANTAGES

- Gluing of limits potential heat damage to the waterproofing membrane
- Reduced energy requirements
- Chlorine-free system
- Extremely tear-resistant due to built-in glass mat
- Easy to were flamed in both tested cases as single ply membrane for bridges
- High resistance to static loading due to its elasticity

PROCESSING

The concrete surface must be prepared according to regulations; pre-treatment with Lucobridge® Primer 2000P (ZTV-ING Part 7, clause 1 resp. 4) is required.

Lucobridge® BIT has to be rolled out, free of voids with overlapping seams. These seams are welded by flash welding procedures. Details are found in the handling and installation instructions. The temperature of bitumen should not exceed 160 °C.









Cover layer Mastic asphalt, stone mastic asphalt, or concrete asphalt		•	•	•	•	•	•
Lucobridge [®] BIT sealing membrane (optional)	 						
Protective layer (Mastic) asphalt (optional)							
Lucobridge [®] BIT sealing membrane———	 						
Lucobridge® Primer 2000P							
Carriageway slab (concrete)							

Two-membrane layers (mandatory) Dutch Bridge Design



- High resistance to impact, perforation and penetration
- Excellent behavior in low temperature
- Superior in counteracting cracks and breaks in the
- basic bridge structure
- Extremely high adherence to pretreated surfaces
- Excellent temperature resistance
- Aging-resistant
- UV-resistant

STORAGE

Lucobridge[®] BIT should be stored upright, protected from moisture and heat.

WASTE DISPOSAL GUIDELINES

Polymeric bitumen- and bitumen membranes as well as other construction material waste acc. to the European Waste Catalogue EWC-No. 17 03 02 ("Bitumen mixtures") can be disposed of in and with thermal combustion disposal processes.

