



PRODUCT SPECIFICATION
Polymer modified bitumen

SP-008
Version 14.1
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I INFORMATION ON MANUFACTURER

Manufacturer: NIS a.d. NOVI SAD
REFINING BLOCK - Oil Refinery Pančevo
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II PRODUCT NAME POLYMER MODIFIED BITUMEN PMB 45/80-65
POLYMER MODIFIED BITUMEN PMB 25/55-55

III DESCRIPTION OF TECHNOLOGICAL PROCESS

Polymer modified bitumen is obtained by adding a thermoplastic elastomer and stabilizing additive into base bitumen, obtained from vacuum residue, finalized by oxidation (specific process of "blowing air") at a particular temperature and under particular pressure, if necessary. Depending on final product type, base bitumen type 50/70 or 70/100 is used.

IV PRODUCT USE

Polymer modified bitumen is used as binder in construction and maintenance of roads, airfields and other paved areas.

V PRODUCT QUALITY AND COMPOSITION

Product Specification for Polymer modified bitumen was made in accordance with EN 14023:2010.

Property	Unit of Measure	Acceptance Criterion				Testing Method
		PMB 45/80-65		PMB 25/55-55		
		class	value	class	value	
Penetration at 25 °C	(1/10)mm	4	45-80	3	25-55	SRPS EN 1426; EN 1426
Softening point (R&B), min	°C	5	65	7	55	SRPS EN 1427; EN 1427
Density**	kg/m³	-	TBR	-	TBR	SRPS EN 15326; EN 15326

Cohesion – Force ductility *, min (50 mm/min traction)	J/cm2	7	3,0 at 10°C	8	0,5 at 15°C	SRPS EN 13589; EN 13589 followed by SRPS EN 13703; EN 13703
Flash point (Cleveland)*, min	°C	2	250	2	250	SRPS EN ISO 2592; EN ISO 2592
Fraass breaking point*, max	°C	8	-18	5	-10	SRPS EN 12593; EN 12593
Elastic recovery at 25°C*, min	%	2	80	5	50	SRPS EN 13398;EN 13398
Storage stability, R&B difference*, max	°C	2	5	2	5	SRPS EN 13399; EN 13399
Plasticity interval*	°C	1	TBR	1	TBR	EN 1427; EN 12593;SRPS EN 1427; SRPS EN 12593
Resistance to hardening at 163°C						SRPS EN 12607-1; EN 12607-1 followed by SRPS EN 1427; EN 1427 SRPS EN 1426; EN 1426 SRPS EN 13398;EN 13398
Weight loss, max	%(m/m)	3	0,5	3	0,5	
Softening point change	Increase, max	2	8	4	12	
	Drop, max	3	5	1	TBR	
Retained penetration *, min	%	7	60	7	60	
Elastic recovery at 25°C*, min	%	2	70	4	50	

Note * - testing is done twice a month

Note ** - testing is done on buyers request

VI TRANSPORT

UN number: 3257

Polymer modified bitumen is dispatched and transported by tank trucks.

Tank trucks that transport polymer modified bitumen must be sufficiently clean. It is recommended that they are previously used only for polymer modified bitumen transport. If tank trucks are used for road bitumen, fuel oil, etc. they can't be used for polymer modified bitumen transport prior to rinsing in order to remove traces of these products. Otherwise polymer modified bitumen degradation is possible. Minimal temperature of polymer modified bitumen during tank trucks filling should be 165 °C, while maximal temperature is 180 °C.

VII HANDLING AND STORAGE

Storage: In properly constructed and equipped tanks. Prior to storing, it is necessary to check the presence of water in tanks because bitumen must not come into contact with water. Optimal storage temperature is 165 °C, while maximal allowed temperature is 180 °C. For prolonged storage recommended temperature is 130 °C.

Instructions on safety precautions for handling, storage and in case of an accident are stated in Safety Data Sheet (SDS).