



QUALITY CERTIFICATE

PMB 65/105-50
EN 14023:2010

Parameters	Test methods	Norm	Actual value	Class
Penetration at 25 deg C, 0.1 mm	EN 1426	65-105	84	6
Softening point, deg C	EN 1427	≥50	54	8
Cohesion Force ductility at 10 deg C, J/cm2	EN 13589, EN 13703	≥2	2	6
Resistance to hardening at 163 deg C	EN 12607-1			
Retained penetration, %	EN 1426	≥60	68	7
Increase in softening point, deg C	EN 1427	≤8	4	2
Change of mass, %	EN 12607-1	≤0.5	0.2	2
Flash point, deg C	EN ISO 2592	≥250	278	2
Fraas breaking point, deg C	EN12593	≤minus 12	minus 21	9
Elastic recovery at 25 deg C, %	EN 13398	≥50	72	3
Storage stability Difference in softening point	EN 13399, EN 1427	≤5	5	2
Storage stability Difference in penetration	EN 13399, EN 1426	≤13	9	2



QUALITY CERTIFICATE

PMB 45/80-50
EN 14023:2010

Parameters	Test methods	Norm	Actual value	Class
Penetration at 25 deg C, 0.1 mm	EN 1426	45-80	58	4
Softening point, deg C	EN 1427	≥50	58	7
Cohesion Force ductility at 10 deg C, J/cm ²	EN 13589, EN 13703	≥2	2	2
Resistance to hardening at 163 deg C	EN 12607-1			
Retained penetration, %	EN 1426	≥60	66	7
Increase in softening point, deg C	EN 1427	≤8	3	2
Change of mass, %	EN 12607-1	≤0.5	0.2	2
Flash point, deg C	EN ISO 2592	≥235	286	2
Fraas breaking point, deg C	EN12593	≤minus 7	minus 16	7
Elastic recovery at 25 deg C, %	EN 13398	≥50	78	3
Storage stability Difference in softening point	EN 13399, EN 1427	≤5	5	2
Storage stability Difference in penetration	EN 13399, EN 1426	≤19	9	2



QUALITY CERTIFICATE

PAVING GRADE BITUMEN 50/70 EN 12591:2009

Parameters	Test methods	Norm	Actual value
Penetration at 25 degC, 0.1 mm	EN 1426	50-70	61
Softening point, degC	EN 1427	46-54	52
Resistance to hardening at 163 deg C Retained penetration , % Increase in softening point, deg C Change of mass, %	EN 12607-1	min 50 max 9 max 0.5	64 8 0.1
Flash point, deg C	EN ISO 2592	max 230	278
Fraas breaking point, deg C	EN12593	≤minus 8	minus 20
Solubility, %	EN 12592	min 99	99.7
Penetration index	EN 12591 annex A	-1.5 to +0.7	-0.2
Dynamic viscosity at 60 deg C, Pa*s	EN 12596	min 145	355
Kynematic viscosity at 135 deg C, mm2/s	EN 12595	min 295	568



QUALITY CERTIFICATE

PAVING GRADE BITUMEN 70/100 EN 12591:2009

Parameters	Test methods	Norm	Actual value
Penetration at 25 degC, 0.1 mm	EN 1426	70-100	81
Softening point, degC	EN 1427	43-51	48.2
Resistance to hardening at 163 deg C Retained penetration , % Increase in softening point, deg C Change of mass, %	EN 12607-1	min 46 max 9 max 0.8	60.5 7.0 0.1
Flash point, deg C	EN ISO 2592	min 230	298
Fraas breaking point, deg C	EN12593	≤minus 10	minus 20
Solubility, %	EN 12592	min 99	99.7
Penetration index	EN 12591 annex A	-1.5 to +0.7	-0.5
Dynamic viscosity at 60 deg C, Pa*s	EN 12596	min	151
Kynematic viscosity at 135 deg C, mm2/s	EN 12595	min 230	355

Appendix 1

Performance characteristics of the polymer modified bitumens

Substantial characteristics	Unit	Performance characteristics										Test method	Harmonized specification
		PMB 35/55-55 (ПББ-40)		PMB 25/55-60 (ПББ-40)		PMB 25/55-65 (ПББ-40)		PMB 45/80-55 (ПББ-40)		PMB 45/80-65 (ПББ-40)			
		Value	Class	Value	Class	Value	Class	Value	Class	Value	Class		
Penetration at 25 °C	0,1mm	35-55	3	25-55	3	25-55	3	45-80	4	45-80	4	EN 1426	EN 14023:2010
Softening point	°C	≥ 55	7	≥ 60	6	≥ 65	5	≥ 55	7	≥ 65	5	EN 1427	EN 14023:2010
Force ductility, 50 mm/min	J/cm²	≥ 2 at 5 °C	3	≥ 2 at 5 °C	3	≥ 2 at 5 °C	3	≥ 2 at 5 °C	3	≥ 2 at 5 °C	3	EN 13589, EN 13703	EN1 4023:2010
Resistance to hardening at 163 °C												EN 12607-1 followed by	EN 14023:2010
Change of mass	%	≤ 0,3	2	≤ 0,3	2	≤ 0,3	2	≤ 0,3	2	≤ 0,3	2	EN 1426	
Retained penetration	%	≥ 60	7	≥ 60	7	≥ 60	7	≥ 60	7	≥ 60	7		
Increase in Softening point	°C	≤ 8	2	≤ 8	2	≤ 8	2	≤ 8	2	≤ 8	2		
Flash point	°C	≥ 235	3	≥ 235	3	≥ 235	3	≥ 235	3	≥ 235	3	EN ISO 2592	EN 14023:2010
Elastic recovery at 25 °C	%	≥ 80	2	≥ 80	2	≥ 80	2	≥ 80	2	≥ 80	2	EN 13398	EN 14023:2010
Fraass Breaking point	°C	≤ -15	7	≤ -15	7	≤ -15	7	≤ -15	7	≤ - 18	8	EN 12593	EN 14023:2010
Regulated dangerous substances	RPB №44925644 02 22751, CAS 8052-42-4, EC 232-490-9												
- Bitumen	Registration No 01-2119498270-36-0030, CAS-No 64742-93-4, EC-No 265-196-4												
- Styrene-butadiene thermoplastic rubber (SBS)	Registration No 01-2119471988-16-0034, 01-2119471988-16-0033 (CAS No106-99-0; EC-No 203-450-8) Index No(CLP):601-013-00-X												
- 1,3-butadiene	Registration No 01-2119457861-32-0016 (CAS-No 100-42-5; EC-No 202-851-5) Index No(CLP): 601-026-00-0												
- styrene													

Appendix 2

Performance characteristics of the polymer modified bitumens

Substantial characteristics		Unit	Performance characteristics														Test method	Harmonized specification
			PMB 65/105-60 (ПБВ-60)		PMB 40/100-65 (ПБВ-60)		PMB 40/100-70 (ПБВ-60)		PMB 65/105-75 (ПБВ-60)		PMB 40/100-75 (ПБВ-60)		PMB 40/100-80 (ПБВ-60)		PMB 75/130-75 (ПБВ-60)			
			Value	Class	Value	Class	Value	Class	Value	Class	Value	Class	Value	Class	Value	Class		
Penetration at 25 °C	0,1 mm	65-105	6	40-100	5	40-100	5	65-105	6	40-100	5	40-100	5	75-130	7	EN 1426	EN 14023:2010	
Softening point	°C	≥ 60	6	≥ 65	5	≥ 70	4	≥ 75	3	≥ 75	3	≥ 80	2	≥ 75	3	EN 1427		
Force ductility, 50 mm/min	J/cm ²	≥ 2 at 5 °C	3	≥ 2 at 5 °C	3	≥ 3 at 5 °C	2	≥ 3 at 5 °C	2	≥ 3 at 5 °C	2	≥ 3 at 5 °C	2	≥ 2 at 5 °C	3	EN 13589, EN 13703		
Resistance to hardening at 163 °C																EN 12607-1 followed by		
Change of mass	%	≤ 0,3	2	≤ 0,3	2	≤ 0,3	2	≤ 0,3	2	≤ 0,3	2	≤ 0,3	2	≤ 0,3	2	EN 1426		
Retained penetration	%	≥ 60	7	≥ 60	7	≥ 60	7	≥ 60	7	≥ 60	7	≥ 60	7	≥ 60	7			
Increase in Softening point	°C	≤ 8	2	≤ 8	2	≤ 8	2	≤ 8	2	≤ 8	2	≤ 8	2	≤ 8	2	EN 1427		
Flash point	°C	≥ 235	3	≥ 235	3	≥ 235	3	≥ 235	3	≥ 235	3	≥ 235	3	≥ 235	3	EN ISO 2592		
Elastic recovery at 25 °C	%	≥ 80	2	≥ 80	2	≥ 80	2	≥ 80	2	≥ 80	2	≥ 80	2	≥ 80	2	EN 13398		
Fraass Breaking point	°C	≤ -20	9	≤ -18	8	≤ -15	7	≤ -15	7	≤ -15	7	≤ -15	7	≤ -20	9	EN 12593		
Regulated dangerous substances		RPB №44925644 02 22751, CAS 8052-42-4, EC 232-490-9																
- Bitumen		Registration No 01-2119498270-36-0030, CAS-No 64742-93-4, EC-No 265-196-4																
- Styrene-butadiene thermoplastic rubber (SBS)																		
- 1,3-butadiene		Registration No 01-2119471988-16-0034, 01-2119471988-16-0033 (CAS No106-99-0; EC-No 203-450-8) Index No(CLP):601-013-00-X																
- styrene		Registration No 01-2119457861-32-0016 (CAS-No 100-42-5; EC-No 202-851-5) Index No(CLP): 601-026-00-0																

Appendix 3

Performance characteristics of the polymer modified bitumens

Substantial characteristics	Unit	Performance characteristics								Test method	Harmonized specification
		PMB 75/130-55 (ПББ-90)		PMB 75/130-70 (ПББ-90)		PMB 40/100-48		PMB 65/105-48			
		Value	Class	Value	Class	Value	Class	Value	Class		
Penetration at 25 ⁰ C	0,1 mm	75-130	7	75-130	7	40-100	5	65-105	6	EN 1426	EN 14023:2010
Softening point	⁰ C	≥ 55	7	≥ 70	4	≥ 48	9	≥ 48	9	EN 1427	EN 14023:2010
Force ductility, 50 mm/min	J/cm ²	≥ 3 at 10 ⁰ C	7	≥ 3 at 5 ⁰ C	2	≥ 1 at 5 ⁰ C	4	≥ 1 at 5 ⁰ C	4	EN 13589, EN 13703	EN 14023:2010
Resistance to hardening at 163 ⁰ C										EN 12607-1 followed by	EN 14023:2010
Change of mass	%	≤ 0,3	2	≤ 0,3	2	≤ 0,5	3	≤ 0,5	3	EN 1426 EN 1427	
Retained penetration	%	≥ 60	7	≥ 60	7	≥ 55	6	≥ 55	6		
Increase in Softening point	⁰ C	≤ 8	2	≤ 8	2	-	-	-	-		
Flash point	⁰ C	≥ 220	4	≥ 235	3	≥ 220	4	≥ 220	4	EN ISO 2592	EN 14023:2010
Elastic recovery at 25 ⁰ C	%	≥ 80	2	≥ 80	2	≥ 50	5	≥ 50	5	EN 13398	EN 14023:2010
Fraass Breaking point	⁰ C	≤ -22	10	≤ -22	10	≤ -15	7	≤ -15	7	EN 12593	EN 14023:2010
Regulated dangerous substances	RPB №44925644 02 22751, CAS 8052-42-4, EC 232-490-9										
- Bitumen	Registration No 01-2119498270-36-0030, CAS-No 64742-93-4, EC-No 265-196-4										
- Styrene-butadiene thermoplastic rubber (SBS)	Registration No 01-2119471988-16-0034, 01-2119471988-16-0033 (CAS No106-99-0; EC-No 203-450-8) Index No(CLP):601-013-00-X										
- 1,3-butadiene	Registration No 01-2119457861-32-0016 (CAS-No 100-42-5; EC-No 202-851-5) Index No(CLP): 601-026-00-0										
- styrene											