

Bitumen parameters adding up to 1.5 % Sasobit by weight



SASOL

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The following table shows bitumen parameters of eight different bitumen 70/100. The parameters were measured in the lab using neat bitumen and **Sasobit** modified bitumen respectively. For the reason of clarity, the table shows only min. and max. values. Detailed lab results are printed on the reverse side.

		70/100			Specification 70/100	Specification 50/70
Sasobit content	M.-%	0,0	1,0	1,5	-	-
Penetration (25 °C)	1/10 mm	67 – 85	53 – 70	47 – 64	70 – 100	50 – 70
Softening Point R&B	°C	45 – 49	48 – 56	50 – 62	43 – 51	46 – 54

Source: Lab report „Upgrading 70/100 to 50/70 using **Sasobit**“

- 8 out of 8 tested 70/100 meet the Penetration range of 50/70 when 1.0 – 1.5 % **Sasobit** by weight is added.
- 7 out of 8 tested 70/100 meet the specified Softening Point R&B range of 50/70 when 1.0 – 1.5 % **Sasobit** by weight is added.

Conclusion

By adding 1.0 – 1.5 % **Sasobit** by weight to 70/100 the parameters Softening Point R&B and Penetration can be met.

This leads to the following benefits:

- Extended plasticity range and therefore wider service temperature interval
- Improved cost-efficiency because a softer base bitumen is used
- All benefits which result from the use of **Sasobit**

The lab test results of the Sasobit modified binders in detail

		70/100									Specification 70/100	Specification 50/70
Bitumen supplier		1.1			1.2			2				
Sasobit content	M.-%	0,0	1,0	1,5	0,0	1,0	1,5	0,0	1,0	1,5	–	–
Softening Point R&B	°C	45,0	47,8	50,4	45,6	48,4	51,0	46,8	51,4	56,2	43 – 51	46 – 54
Penetration (25 °C)	1/10 mm	85,0	70,0	61,0	79,0	62,0	57,0	78,0	58,0	53,0	70 – 100	50 – 70
G* (60 °C)	Pa	1640	2280	2870	1840	2450	2860	1690	2920	4030	–	–
δ (60 °C)	°C	87,0	84,6	82,3	86,7	85,2	83,2	86,9	82,4	80,3	–	–
Dyn. viscosity (135 °C)	mPas	368	350	339	383	356	338	468	431	421	–	–

		70/100									Specification 70/100	Specification 50/70
Bitumen supplier		3			4.1			4.2				
Sasobit content	M.-%	0,0	1,0	1,5	0,0	1,0	1,5	0,0	1,0	1,5	–	–
Softening Point R&B	°C	46,2	49,0	52,0	48,6	51,8	55,4	46,0	50,0	53,2	43 – 51	46 – 54
Penetration (25 °C)	1/10 mm	80,0	65,0	60,0	67,0	54,0	48,0	70,0	53,0	47,0	70 – 100	50 – 70
G* (60 °C)	Pa	1720	2490	3320	2110	3380	4120	1440	2230	3480	–	–
δ (60 °C)	°C	87,1	83,6	81,6	86,8	82,2	80,9	88,9	84,6	83,1	–	–
Dyn. viscosity (135 °C)	mPas	355	327	322	506	465	450	343	327	310	–	–

		70/100						Specification 70/100	Specification 50/70
Bitumen supplier		5			6				
Sasobit content	M.-%	0,0	1,0	1,5	0,0	1,0	1,5	–	–
Softening Point R&B	°C	45,2	48,4	50,8	48,0	56,4	62,4	43 – 51	46 – 54
Penetration (25 °C)	1/10 mm	83,0	69,0	64,0	78,0	59,0	54,0	70 – 100	50 – 70
G* (60 °C)	Pa	1300	1820	2520	1760	3840	5250	–	–
δ (60 °C)	°C	88,9	85,5	83,5	83,5	77,7	74,5	–	–
Dyn. viscosity (135 °C)	mPas	320	303	295	415	392	369	–	–

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