

Rheological Examination of Iranian modified Bitumen (LA160315a) - AntonPaar Rheometer

		V 0616	V 0623	V 0624	V 0625	V 0626
Bitumen 60/70 from Iran (02.03.2016)	%	100	98	97	96	94
VESTOPLAST EP 901	%		2	3	4	6
Softening point R&B	°C	50	59	63	68	76
Penetration 25°C	mm/10	62	44	39	36	35
MCR 102 / CP-25-2 DIN EN 13702						
Viscosity 60°C / 0,05 1/s	Pa s	252	791	1010	1800	3890
Viscosity 100°C / 50 1/s	mPa s	3600	4120	4260	4630	5280
Viscosity 150°C / 500 1/s	mPa s	203	225	228	240	265
MCR 102 / PP25 / f 1,59 Hz						
DSR 30°C G*	Pa	279039	705327	876576	1206165	1775850
δ	°	65.9	59.5	58	55	50.7
DSR 40°C G*	Pa	63827	137390	169493	253140	395612
δ	°	73	68.2	66.9	63.5	59.1
DSR 50°C G*	Pa	12315	25147	30860	47711	82804
δ	°	79.6	74.9	74.4	70.3	65.1
DSR 60°C G*	Pa	2538	4990	6195	9573	17014
δ	°	84.5	79	77.6	74.2	68.8
DSR 70°C G*	Pa	675	1292	1636	2217	3668
δ	°	87.3	81.4	80.2	77.5	73.1
DSR 80°C G*	Pa	215	433	508	720	1124
δ	°	89.1	83	82.3	79.3	75.5
DSR 90°C G*	Pa	83	155	179	255	387
δ	°	89.9	84.4	83.2	80.3	76.5
MSCR at 60°C						
Average deformation (0,1 kPa)	%	40.4	18.1	13.2	7.02	2.3
Average deformation (3,2 kPa)	%	-	-	730	572	277
Average recovery (0,1 kPa)	%	4.57	31.8	37.5	66.8	81.1
Average recovery (3,2 kPa)	%	-	-	2.74	4.94	15.4
non-recoverable creep compliance $J_{nr0,1}$	kPa-1	3.86	1.24	0.83	0.23	0.04
non-recoverable creep compliance $J_{nr3,2}$	kPa-1	-	-	2.22	1.7	0.74

deformation outside LVE range

Explanations: