表3　大配合试验结果

项　目	配方编号				项　目	配方编号			
	1#		2#			1#		2#	
门尼粘度[ML(1+4)100 ℃]	64		64		炭黑分散等级	7.4		7.7	
门尼焦烧时间t_5(127 ℃)/min	35.80		34.12		阿克隆磨耗量/cm^3	0.237		0.224	
硫化仪数据(151 ℃)					屈挠龟裂(6级)次数×10^{-4}	10		12	
F_L/(dN·m)	17.73		17.03		压缩疲劳性能[1)]				
F_{max}/(dN·m)	2.90		2.89		永久变形/%	6.3		6.7	
t_{30}/min	10.89		10.72		温升/℃	38.5		36.9	
t_{90}/min	18.89		17.98		100 ℃×24 h老化后				
硫化胶性能(151 ℃×30 min)	30	40	30	40	300%定伸应力/MPa	14.0	14.2	14.0	13.1
邵尔A型硬度/度	70	70	70	70	拉伸强度/MPa	23.7	22.6	23.2	22.5
300%定伸应力/MPa	11.7	11.9	10.0	10.6	拉断伸长率/%	487	473	474	488
拉伸强度/MPa	22.5	22.8	21.8	22.3	撕裂强度/(kN·m^{-1})	140	145	135	132
拉断伸长率/%	501	497	531	525	阿克隆磨耗量/cm^3	0.265		0.279	
撕裂强度/(kN·m^{-1})	136	122	134	125	屈挠龟裂(6级)次数×10^{-4}	14		16	
切割量/g	0.785	0.745	0.698	0.720					

注：同表2。

载重子午线轮胎胎面胶中适当增大白炭黑用量是可行的。

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Application of Silica Dispersing Aid DST-100 in Tread Compound of All-steel Truck and Bus Radial Tire

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Abstract：The application of silica dispersing aid DST-100 in the tread compound of all-steel truck and bus radial (TBR) tire was studied. The results showed that based on the production formula using only 15 parts of silica，when the amount of silica increased by 3～8 phr and 2 phr of silica dispersing aid DST-100 was added，the vulcanization characteristics，the dispersion of carbon black，tensile properties and compression fatigue resistance of the compound were similar to those of the compound with the original production formula，and the anti-cutting performance and wear resistance were improved. With silica dispersing aid DST-100，it was feasible to increase the amount of silica in the tread compound of all-steel truck and bus radial tire.

Key words：silica dispersing aid DST-100；all-steel truck and bus radial tire；tread compound；anti-cutting performance；wear resistance

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（朱永康）