

1. Vulcanized Rubber Applications

ASADENE™, TUFdene™ and ASAPRENE™ are mainly used for tire, industrial goods and footwear applications. We can provide grades with various styrene content and microstructure.

We can also provide modified grades introduced with a functional group, which already have high reputation in the application of silica filled tire for fuel economy type.

Vulcanized Rubber Applications: ASADENE™, TUFdene™ and ASAPRENE™ Grades List

	Grade Name	Styrene Content (%)	Mooney Viscosity* ¹⁾	Oil* ²⁾ (phr)	Features
BR	ASADENE™NF35R	0	35	—	Superior wear resistance, low temperature characteristics and groove crack resistance, along with good processability
SBR	TUFdene™1000	18	45	—	Superior wear resistance, resilience, low temperature characteristics and groove crack resistance
	TUFdene™2000R	25	45	—	Good balance in tensile strength, wear resistance resilience and fluidity in processing
	TUFdene™2003	25	33	—	Low mill shrinkage and good fluidity in processing
	TUFdene™2100R	25	78	—	High green strength and low compression set. High loading is possible.
	TUFdene™3830	33	65	37.5	Superior balance in rolling resistance, wet skid, and low temperature characteristics. Medium vinyl content.
	TUFdene™3835	35.5	53	37.5	Superior dry and wet skid resistances suitable for high performance tread tire. Medium vinyl content.
	TUFdene™4850	40	42.5	50	
	ASAPRENE™303	46	45	—	Low mill shrinkage. High hardness and bright color compounds
	ASAPRENE™1205	25	47	—	Low mill shrinkage and good fluidity in processing. Bright color compounds
	ASAPRENE™6500P	65	60* ³⁾	—	High hardness compounds. Superior transparency suitable for bright color compounds. Good roll processability
E series (Modified SBR)	TUFdene™E580	35.5	69	37.5	Modified SBR having superior grip performance, low rolling resistance, wear resistance and low temperature performance especially in silica filled applications. Suitable for tire applications.

*¹⁾ ML(1+4)100°C *²⁾ Oil:low PCAoil (SRAE) *³⁾ ML(5+4)100°C

2. Plastic Modification Applications

ASADENE™, TUFdene™ and ASAPRENE™ are mainly used to improve impact resistance such as in HIPS (high impact polystyrene). They have features of superior hue and low gel content. We can provide grades with wide range of solution viscosity.

We can also provide standard grade ASADENE™ and ASAPRENE™ suitable for high gloss HIPS and transparent HIPS, in response to customers' needs.

Plastic Modification Applications: ASADENE™ and ASAPRENE™ Grade List

	Grade Name	Styrene Content (%)	Solution Viscosity* ¹⁾ (mPa·s)	Mooney Viscosity ML(1+4)100°C	Applications
BR	ASADENE™ 35AE	0	85	33	General HIPS
	ASADENE™ 55AE	0	170	55	General HIPS
PH-BR ^{*2)}	ASADENE™ H300A	0	75	33	HIPS with improved heat stability
BR	ASAPRENE™ 700A	0	44	37	High Gloss HIPS
	ASAPRENE™ 720AX	0	25	40	High Gloss HIPS, Mass ABS
	ASAPRENE™ 730AX	0	35	47	High Gloss HIPS
SBR	ASAPRENE™ 610A	15	10	—	Mass ABS
	ASAPRENE™ 625A	35	22	—	Transparent HIPS, Mass ABS
	ASAPRENE™ 670A	39	34	—	Transparent HIPS, Ultra High Gloss HIPS

*¹⁾ 5% Styrene solution viscosity (25°C) *²⁾ PH-BR: Partially hydrogenated BR