

New Silane Coupling Agent Products

Butadiene Polymer Modified Silane Coupling Agents X-12-1267B, X-12-1267B-ES

X-12-1267B is a silane coupling agent with a butadiene polymer structure.

Expected Properties

- Improves compatibility and adhesion of various materials
- Improves water resistance owing to high hydrophobicity

General properties

Parameter	Product name	X-12-1267B	X-12-1267B-ES
R		Me	Et
Appearance		Slightly cloudy yellow liquid	Slightly cloudy yellow liquid
Viscosity at 25°C	cP	1,600	1,100
Nonvolatile content 105°C×3h	%	>98	>98
Number average molecular mass*		6,000	6,200

* Calculated by styrene conversion

(Not specified values)

Results of comparative adhesion tests

Addition to silicone sealants

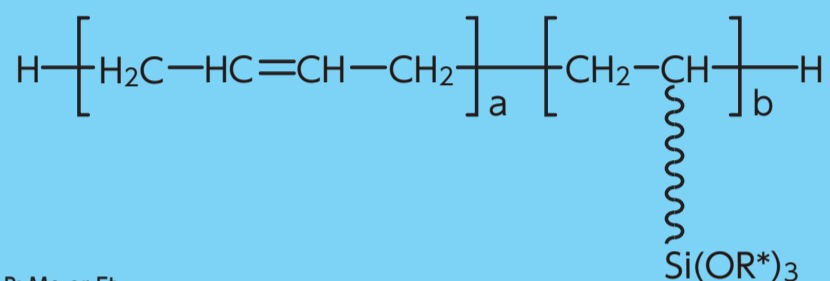
Substrate	Blank* ¹		Addition of 0.5 wt % X-12-1267B	
	Initial	After immersion* ²	Initial	After immersion* ²
Butyl rubber	×	○	○	○
Polystyrene	×	×	○	○

○ : Cohesive failure × : Interfacial delamination (Not specified values)

* 1 0.5 wt% of KBM-603: N-2-(Aminoethyl)-3-aminopropyltrimethoxysilane is contained.

* 2 50°C immersion × 7 days

Chemical structure



* R: Me or Et

Acid Anhydride Functional Group Containing Butadiene Polymer Modified Silane Coupling Agent X-12-1287A

Since X-12-1287A contains an acid anhydride group, it is reactive with organic materials and contributes to adhesion.

Expected Properties

- Improves compatibility, adhesion, and hydrophobicity of various materials
- Improves adhesion with organic resin through the existence of the acid anhydride group

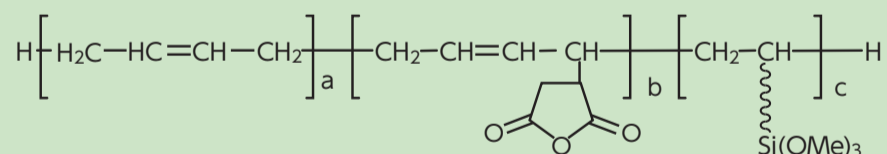
General properties

Parameter	Product name	X-12-1287A
Appearance		Cloudy brown liquid
Viscosity at 25°C	cP	6,400
Nonvolatile content 105°C×3h	%	>98.0
Number average molecular mass*		6,500
Acid anhydride equivalent	g/mol	1,500

* Calculated by styrene conversion

(Not specified values)

Chemical structure



Styrene-butadiene Polymer Modified Silane Coupling Agent X-12-1281A, X-12-1281A-ES

X-12-1281A is a silane coupling agent with a styrene-butadiene polymer structure.

Expected Properties

- Improved compatibility and adhesion of various materials
- Improved water resistance owing to high hydrophobicity

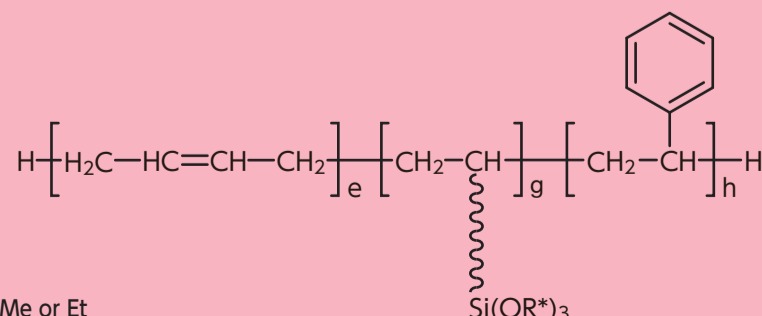
General properties

Parameter	Product name	X-12-1281A	X-12-1281A-ES
R		Me	Et
Appearance		Yellow slightly cloudy liquid	Yellow slightly cloudy liquid
Viscosity at 25°C	cP	21,000	7,500
Nonvolatile content 105°C×3h	%	>98	>98
Number average molecular mass*		9,000	9,500

* Calculated by styrene conversion

(Not specified values)

Chemical structure



* R: Me or Et