



Acrylic Processing Aid

SAN Processing Aid : AIP 9000S

Revision date: 1st July, 2017

Part 1: Introduction

AIP 9000S is a SAN processing aid with super high molecular weight. It is mainly to promote the fusion of PVC compound, it can endow PVC products with good mechanical property and surface quality. It can be widely used for rigid PVC products such as PVC profile, PVC pipes, PVC pipe fitting, PVC foaming products etc.

Part 2: Advantages

- Super high molecular weight and viscosity
- Endow PVC products with higher melt strength and tensile strength
- Faster fusion
- Cost saving
- Improve surface quality

Part 3: Application

AIP 9000S can be widely used for rigid PVC products such as PVC profile, PVC pipes, PVC pipe fitting and PVC foaming products.

Part 4: Data Analysis

Technical specification

Specification	Unit	Test standard	Competitor	AIP 9000S
Appearance	--	--	White powder	White powder
Bulk density	g/cm ³	GB/T 1636-2008	0.47	0.40±0.10
Sieve residue (30 mesh)	%	GB/T 2916	1.0	≤1.0
Volatile content	%	ASTM D5668	1.20	≤1.30
Intrinsic viscosity (η)	--	GB/T 16321.1-2008	2.84	11.00-13.00

Part 5: Performance Comparison

5.1 Basic formulation for the following tests

Mixing equipment type: SHR-5A from Zhang Jiagang Beier Machinery Co., LTD

Volume: 5L

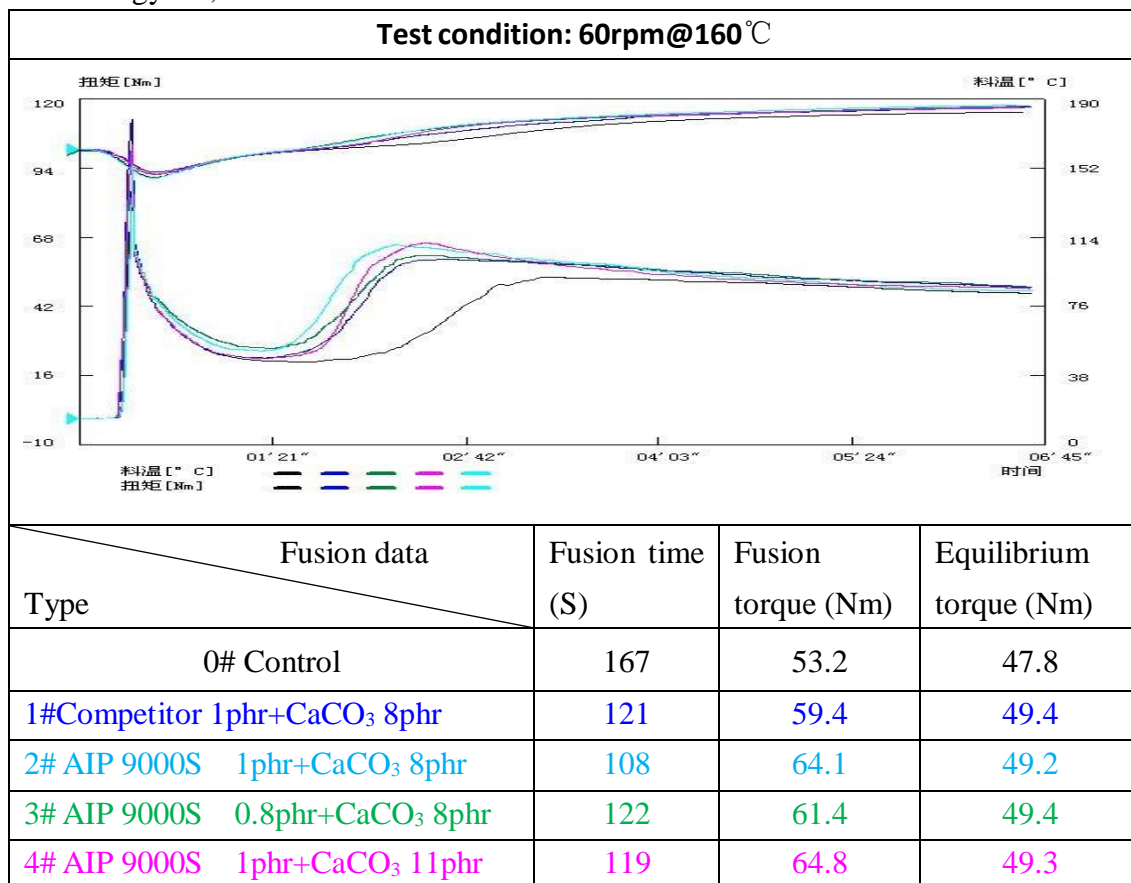
Mixing condition: 120°C

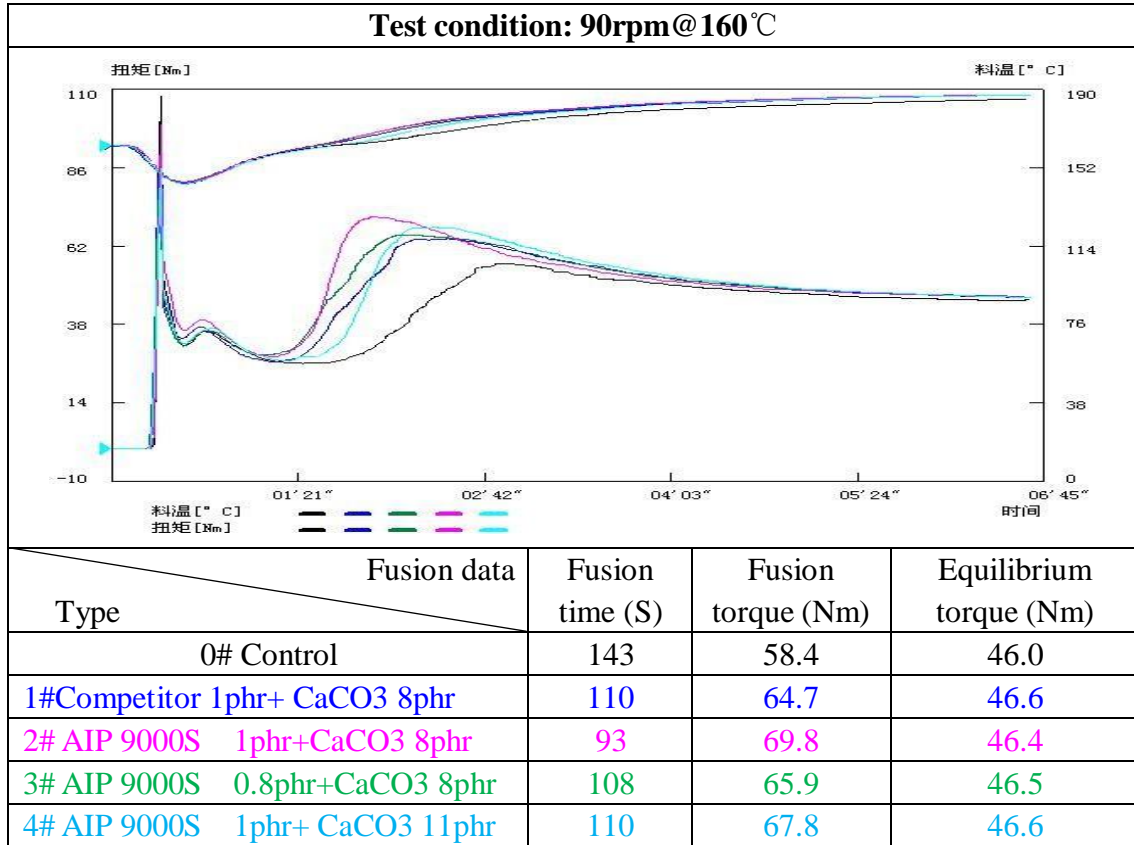
Ingredients	0#	1#	2#	3#	4#
	Control	Competitor	AIP 9000S		
PVC (K-65)	100.00	100.00	100.00	100.00	100.00
Ca-Zn stabilizer	2.80	2.80	2.80	2.80	2.80
PE wax	0.20	0.20	0.20	0.20	0.20
TiO2 (Rutile)	1.50	1.50	1.50	1.50	1.50
Impact modifier MBS-5640	4.00	4.00	4.00	4.00	4.00
CaCO3 (PCC)	8.00	8.00	8.00	8.00	11.00
PA Competitor	--	1.00	--	--	--
Processing aid AIP 9000S	--	--	1.00	0.80	1.00

5.2 Fusion property comparison

Test equipment type: RM-200C torque rheometer from Harbin Hapro Electrical technology co., LTD

Volume: 60ml





5.3 Mechanical properties comparison

Test method:

1. Make plate with compound on double-roller mill under 185°C for 5min.
2. Then retain 6 min in curing press at 185°C
3. According to the following test standards and test conditions, prepare samples and obtain test results.

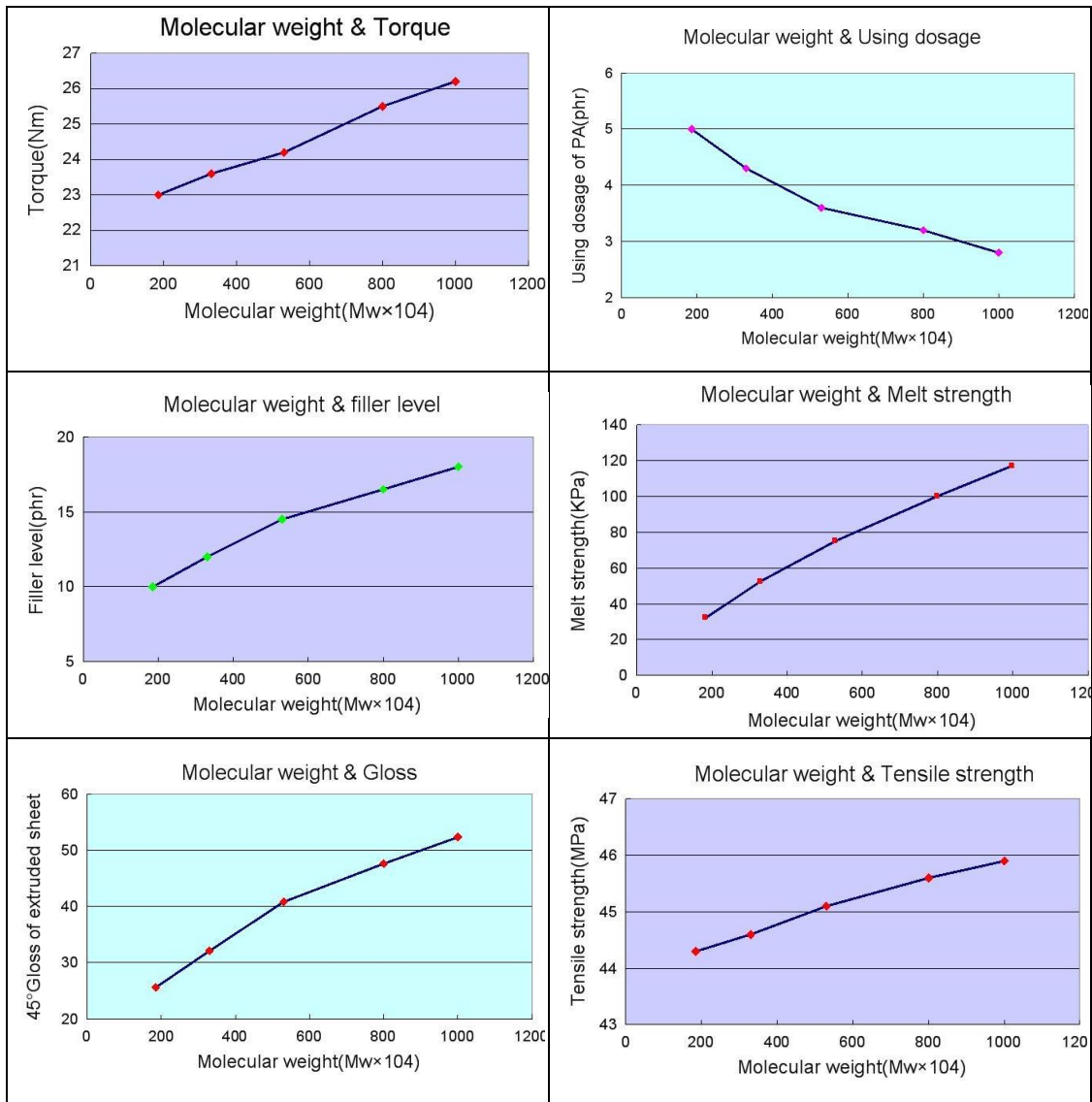
Type	Charpy impact strength (KJ/m ²)	Tensile strength (MPa)	Elongation at break (%)	Vicat softening point(°C)
Test Condition	0°C	23°C 10mm/min	23°C 10mm/min	5Kg120°C/h
Test standard	GB/T 1043	GB/T 1040	GB/T1040	GB/T 1633
0# Control	11.1±0.3	42.0±0.4	125.5±2.0	82.0±0.3
1#Competitor 1phr +CaCO ₃ 8phr	12.0±0.2	42.4±0.3	136.3±2.5	82.2±0.2
2#AIP 9000S 1phr +CaCO ₃ 8phr	12.3±0.2	43.0±0.2	138.0±2.3	82.7±0.2
3#AIP 9000S 0.8phr + CaCO ₃ 8phr	12.0±0.2	42.9±0.2	136.5±2.4	82.4±0.2
4#AIP 9000S 1phr +CaCO ₃ 11phr	11.9±0.2	42.6±0.2	135.9±2.4	82.6±0.2

5.4 Surface gloss comparison

Test condition: 45° Test standard: ASTM D2457

Type	Gloss of PVC extruded sheet
0# Control	20.2±0.8
1#Competitor 1phr+ CaCO ₃ 8phr	27.0±1.2
2# AIP 9000S 1phr+CaCO ₃ 8phr	29.4±1.0
3# AIP 9000S 0.8phr+CaCO ₃ 8phr	27.8±1.1
4# AIP 9000S 1phr+ CaCO ₃ 11phr	27.7±1.1

5.5: Benefits of high molecular weight processing



Part 6: Packing, transportation and storage

20kg/25 kg bag, 250kg/500 kg super sack

This material is non-dangerous goods for land, air and marine transportation.

Material should be kept from flames, hot pipes, heaters or other sources of heat.

Adequate precautions should be taken to keep all dust levels below values that are hazardous to health and safety. The recommended maximum storage temperature for this material is 45 deg.C.

Part 7: Safe Handling

Please consult the MSDS before handling for additional information concerning personal protective equipment, Safety, Health and Environmental information, and always exercise the utmost care in handling.