

TENNECO PVC RESINS

Homopolymer, Copolymer
Dispersion and Blending

TENNECO

COLORITE 007250

Tenneco Chemicals has served the vinyl industry for many years as a leading source for a broad line of PVC products. With our totally integrated production capability—from natural gas to polymer—Tenneco offers its customers the in-depth resources of industry's leading chemical complex...your headquarters for PVC performance.

Shown on the following pages are typical performance characteristics of Tenneco PVC homopolymer, copolymer, dispersion and blending resins. For complete information contact your nearest Tenneco sales office.

Typical Applications: Flooring • Calendering • Film and sheet products • Coatings on cloth, paper and metal • Phonograph records • Wire and cable insulating material • Pipe and conduit • Wall siding

Note: Tenneco's material safety data sheet should be consulted for information on hazards and precautions in the handling and use of these products.

TENNECO PVC RESINS

Vinyl Homopolymer		Inherent Viscosity 0.2 g/100 ml cyclohexanone at 30°C (D-1243)	Relative Viscosity 1% by wt cyclohexanone at 25°C	Typical Applications
Product	Description			
TENNECO 10R	Low molecular weight low gel	0.64	1.78	Unplasticized clear sheet
TENNECO 175	Low molecular weight with uniform particle size	0.65	1.81	Specialty molding and extrusion compound
TENNECO 195	Low-medium molecular weight with excellent heat stability, rapid fluxing and moderate plasticizer absorption properties	0.74	1.94	Unplasticized clear sheet pipe extrusion and injection molding
TENNECO 200	Low-medium molecular weight with uniform particle size and moderate plasticizer absorption characteristics	0.80	2.04	Compounds for extrusion calendaring and injection molding where ease of processing at lower temperatures is essential
TENNECO 225	General purpose medium molecular weight with uniform particle size and moderate plasticizer absorption characteristics	0.96	2.28	Flexible calendaring wire and cable compounds, film and sheeting specialty extrusion and critical moldings
TENNECO 225F	Medium molecular weight with low gel content and contamination levels	0.96	2.28	Packaging film medical tubing
TENNECO 225PG	Medium molecular weight with closely controlled particle size and absorption characteristics	0.96	2.22	Critical pressure pipe and conduit extrusion on single and multiple screw extruders
TENNECO 250	Medium-high molecular weight with good plasticizer absorption and uniform particle size to give excellent extrusion rates	1.01	2.38	Wire and cable compounds and profile extrusions, including dry blends
TENNECO 250-3	High molecular weight with good plasticizer absorption excellent heat stability and uniform particle size for excellent extrusion rates	1.07	2.48	Superior physical properties in flexible compounds for wire and cable, tubing and specialty extrusions



Vinyl Copolymer

Product	Description	Inherent Viscosity 0.2 g / 100 ml cyclohex- anone at 30°C (D-1234)		Relative Viscosity 1% by wt cyclohex- anone at 25°C	Typical Applications
		% Acetate			
TENNECO 314	Low molecular weight with good heat stability and low fluxing temperatures	14.5	0.44	1.45	Vinyl asbestos floor tile. Excellent wetting action with heavy filler load.
TENNECO 391	Low molecular weight, high acetate with good heat stability and low fluxing temperatures	15.0	0.46	1.50	Fast flow record compounds and dry blend for fast pressing cycles and light weight records.
TENNECO 315	Medium molecular weight with excellent heat stability and closely controlled particle size for ease of processing	13.0	0.50	1.56	Vinyl asbestos floor tile. Excellent wetting action with heavy filler loading.
TENNECO 315R	Medium molecular weight with low volatiles, uniform particle size and excellent heat stability	13.0	0.50	1.56	Record compounds and dry blends where excellent audio quality is required.
TENNECO 389	Medium high molecular weight with uniform particle size, good dry flow characteristics and excellent heat stability	12.5	0.54	1.63	Specially designed for single resin systems making dry blend compounds for records of critical audio quality.
TENNECO 390	High molecular weight, low acetate with outstanding heat stability and uniform fluxing characteristics	9.5	0.68	1.85	Rigid calendared sheet for vacuum forming and graphic arts printed stock as well as flooring.
TENNECO 382	High molecular weight, low acetate with excellent heat and initial color stability	9.5	0.68	1.85	Vinyl asbestos floor tile having excellent physical properties. Also used as a secondary resin for phonograph record compounds.

TENNECO PVC RESINS

Vinyl Dispersion

TENNECO dispersion resins are "low soap" resins of exceptionally high purity which provide outstanding clarity, heat stability, air release, water-blush resistance and metal adhesion.

Plastisols made with TENNECO dispersion resins exhibit low viscosities and yield values—ideal for many applications. Fast fusion and gelation are obtained with TENNECO copolymer resins in applications such as sealants, adhesives, and molding.

Product	Relative Viscosity	¹ Brookfield Viscosity, poises 1 day, 20 rpm	² Severs Viscosity, poises @ 100 psi	% Volatiles	% Methanol Extractibles	³ Gelation Time min @ 160F	⁴ Hot Bar Fusion °F
TENNECO 1716	2.4	30	160	1.0	1.5	18	178
TENNECO 1730	2.4	40	240	0.4	0.6	17	172
TENNECO 1732	2.4	45	75	1.0	1.5	17	167
TENNECO 1742	3.2	50	75	1.0	1.6	23	182
TENNECO 1755	2.4	60	200	0.4	0.5	19	177
TENNECO 1757	2.8	50	200	0.4	0.5	23	184
TENNECO 0565 COPOLYMER 4.2% Acetate	2.4	125	300	0.8	0.5	11	147

TENNECO 501	2.2	70	95	0.9	—	31	—
TENNECO 521 COPOLYMER 4.0% Acetate	2.0	105	110	0.9	—	26	—
TENNECO 530	2.48	67	105	0.5	—	28	—

Vinyl Blending

¹1% by weight in cyclohexanone @ 25°C; ²60 phr DOP
 Tenneco 1730 Blending Resin/DOP, Nuostab® V-1216 50/50/40/3
 Tenneco 1755 Blending Resin/Duramite/DOP, Nuoplaz® 849/Nuostab® V-1420 70/30/10/50/5/3
 *Registered TM of Tenneco Chemicals



Viscosity Converter

Inherent Viscosity, 0.2 gr/100 ml cyclohexanone 30°C ASTM D1243-66	1.20	1.10	1.00	90	80	70	60	50	40					
Specific Viscosity, 0.4 gr/100 ml nitrobenzene 30°C	50	45	40	35	30	25	20	15						
Relative Viscosity, 1.0% by wt. in cyclohexanone 25°C	2.70	2.60	2.50	2.40	2.30	2.20	2.10	2.00	1.90	1.80	1.70	1.60	1.50	1.40
K Value Fikentscher	75	70	65	60	55	50								
Viscosity Number ISO/R174-1961 (E)	150	140	130	120	110	100	90	80	70	60	50			
Intrinsic Viscosity (cyclohexanone)	1.20	1.10	1.00	90	80	70	60	50	40					
Molecular Weight, (Weight Average) (000 omitted)	120	110	100	90	80	70	60	50	40					
Molecular Weight, (Number Average) (000 omitted)	60	55	50	45	40	35	30	25	20					

While use of nitrobenzene is not recommended for toxicity reasons, this scale is included for historical comparisons only.