

VANFRE[®] PROCESSING AIDS



High performance solutions
for your processing needs



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A Wholly Owned Subsidiary of R.T. Vanderbilt Holding Company, Inc.

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VANFRE® Processing Aids

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LUBRICANTS series is a combination of amides, ester and metal salts which work tremendously well as internal and external lubricants, as such, they provide surface improvements for molded and extruded or calendered rubber goods. This range is also popular for their effect on dispersing filler and other compound ingredients.

VANFRE L16
VANFRE L20
VANFRE L22
VANFRE L42
VANFRE L79

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FLOW IMPROVER series is a range of metal soaps of natural fatty acids, specially designed to improve the downline-processing behavior of standard and special elastomers.

VANFRE F44
VANFRE F50
VANFRE F60
VANFRE F60T

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TACKIFIER/HOMOGENIZER series offers a range of unique compatibilizing agents, employed in the effective blending and homogenization of various grade of polymers.

VANFRE B40
VANFRE B60

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HIGH PERFORMANCE series give specialty solutions for those harder to solve processing problems.

VANFRE AP-2
VANFRE AP-2 SPECIAL
VANFRE APD
VANFRE HYP
VANFRE UN
VANFRE VAM

LUBRICANTS General Purpose

Description	Properties				
	Appearance	Specific Gravity, g/cm ³	Dropping Point, °C	Packaging	Dosage
VANFRE® L16 Processing Aid <small>Mixture of Fatty Acid Soaps and Amides</small>	Beige Pastilles	0.98	103	25 kg PE bag	1 - 5 phr
VANFRE L20 <small>Fatty Acid Ester Derivatives</small>	White Pastilles	1.10	60	25 kg PE bag	1 - 5 phr
VANFRE L22 <small>Aliphatic Fatty Acid Ester</small>	White Pastilles	0.95	60	25 kg PE bag	1 - 5 phr
VANFRE L42 <small>Blend of Fatty Acid Derivatives</small>	Beige Pastilles	0.93	88	25 kg PE bag	1 - 5 phr
VANFRE L79 <small>Fatty Acid Ester and Polymer Derivative</small>	White Pastilles	1.07	60	25 kg PE bag	1 - 2 phr

Function and Application	Process Enhancement	Sequence of Addition	Suitable For: <small>**Very Good *Good</small>	Equivalent
<ul style="list-style-type: none"> Process additive for most kinds of polymers, excellent effect on mold flow and release Improves surface finish of vulcanizates Give stabilizing properties in CR blends 	<ul style="list-style-type: none"> Extrusion Calendering Injection molding Molding (release) 	With filler(s) and/or small ingredients	NR** SBR** EPDM** IIR* NBR*	WB 16 Dispergator FL Ultra Lube 160 Deoflow S Aflux 16
<ul style="list-style-type: none"> Compatible with all standard polymers Dispersing agent for highly active white fillers and other powder ingredients High plasticizing effect in dry compounds Low peroxide demand 	<ul style="list-style-type: none"> Mixing (faster incorporation) Extrusion Calendering Molding (release) 	With filler(s) and/or small ingredients	NR** SBR** EPDM** CR** BR* NBR*	WB 212 Deosol H Ultra Lube 200 Aflux 12
<ul style="list-style-type: none"> Highly effective process additive and mold release agent for special polymer (NBR, CSM, and ACM) Due to high temperature stability it can be used in UHF, salt bath and fluid bed vulcanization Very effective flow improver and release agent in NBR and HNBR products Low peroxide demand 	<ul style="list-style-type: none"> Mixing (faster incorporation) Extrusion & Calendering Injection molding & molding (release) 	With filler(s) and/or small ingredients at last mixing stage	NBR** SBR** NR** EPDM** HNBR** XNBR** CSM** FKM** CR*	WB 222 Aflux 54 Ultra Lube 220 Deoflow 821
<ul style="list-style-type: none"> Process additive and mold release agent for the use in nearly all polymers and filler combinations Particularly effective in the extrusion process Excellent filler dispersion leads to high uniformity Low peroxide demand 	<ul style="list-style-type: none"> Mixing (faster incorporation) Extrusion & Calendering Molding (release) Highly effective in EPDM compound 	With filler(s) and/or small ingredients	NR** SBR** IIR** EPDM** NBR** HNBR** CR**	WB 42 Aflux 42 Ultra Lube 420 Deoflow A
<ul style="list-style-type: none"> Highly effective process additive for special polymers such as FKM and EVA Excellent flow and release effect in fluorinated and acrylate rubber Low volatility, suitable for use where post curing required Improves filler dispersion of FKM compounds 	<ul style="list-style-type: none"> Mixing (faster incorporation) Extrusion Injection molding Molding (release) 	With filler(s) and/or small ingredients at last mixing step	FKM** ACM** H-NBR* X-NBR*	WS 280 HT 290 Ultra Lube 790

FLOW IMPROVER General Purpose

Description	Properties					
	Appearance	Specific Gravity, g/cm ³	Dropping Point, °C	Zinc Content, %	Packaging	Dosage
VANFRE® F44 Processing Aid Fatty Acid Derivatives with Metal Soap	Pale Yellow Pastilles	1.10	98	8.5	25 kg PE bag	1-3 phr
VANFRE F50 Zinc Soap of Unsaturated Fatty Acids	Beige Pastilles	1.10	103	10.5	25 kg PE bag	1 - 5 phr
VANFRE F60 Blend of Fatty Acids with Zinc Soaps	Beige Pastilles	1.15	90	8.5	25 kg PE bag	1 - 5 phr
VANFRE F60T Mixture of Fatty Acids with Zinc Soaps	Beige Pastilles	1.10	90	13.5	25 kg PE bag	1 - 5 phr

Function and Application	Process Enhancement	Sequence of Addition	Suitable For: **Very Good *Good	Equivalent
<ul style="list-style-type: none"> Excellent flow promoter for compounds with high level of white fillers (Silica, CaCO₃, Clay, etc.) Process additive for non-halogenated polymers Improves dispersion of fillers (especially minerals filler) and batch-to-batch uniformity Decreases tendency of silica reagglomeration Complies with 177.2600 (FDA) 	<ul style="list-style-type: none"> Mixing (faster incorporation) Extrusion Injection molding Molding (release) 	With filler(s) and/or small ingredients	NR** SBR** EPDM** NBR** CR**	EF 44 Ultra Flow 440
<ul style="list-style-type: none"> Reduces compound viscosity and gives better flow properties with internal lubrication Not suitable for halogen-containing elastomers Complies with 177.2600 (FDA) 	<ul style="list-style-type: none"> Mixing (faster incorporation) Extrusion & Calendering Molding (release) 	With filler(s) and/or small ingredients	NR** SBR** BR** IIR** NBR**	A 50 Aktiplast PP Ultra Flow 500 Dispergum R
<ul style="list-style-type: none"> Reduces compound viscosity and gives better flow properties with internal lubrication Suitable for use in softer compounds or compounds with low mixing temperatures Complies with 177.2600 (FDA) 	<ul style="list-style-type: none"> Mixing (faster incorporation) Extrusion Calendering 	With filler(s) and/or small ingredients at last mixing stage	NR** SBR** BR** IIR* NBR*	A 60 Ultra Flow 600
<ul style="list-style-type: none"> Reduces compound viscosity and gives better flow properties with internal lubrication Suitable for use in softer compounds or compounds with low mixing temperatures Complies with 177.2600 (FDA) 	<ul style="list-style-type: none"> Mixing (faster incorporation) Extrusion Calendering 	With filler(s) and/or small ingredients	NR** SBR** BR** IIR* NBR*	A 60DH Aktiplast T Ultra Flow 600T Dispergum T

TACKIFIER / HOMOGENIZER

Description	Properties				
	Appearance	Specific Gravity, g/cm ³	Dropping Point, °C	Packaging	Dosage
VANFRE® B40 Processing Aid Mixture of Dark Aromatic Hydrocarbon Resins	Dark Brown Pastilles	1.06	106	25 kg PE bag	4 - 15 phr
VANFRE B60 Mixture of Light Colored Hydrocarbon Resins	Yellow Pastilles	0.97	100	25 kg PE bag	2-5 phr

Function and Application	Process Enhancement	Sequence of Addition	Suitable For: **Very Good *Good	Equivalent
<ul style="list-style-type: none"> Improves homogeneity of polymer blends Improves the processing behavior in internal mixers, open mills and during calendaring Provide good compound tack and high green tack best suited for dark compound 	<ul style="list-style-type: none"> Mixing (faster incorporation) Extrusion & Calendering 	At beginning of mix cycle with polymer(s)	NR** BR** CR** IIR*	40 MS Ultra Blend 4000 Rhenosin 145 Homogenisator 501D
<ul style="list-style-type: none"> Same effect as VANFRE B40 but intended for the use with light colored compounds Complies with 177.2600 (FDA) 	<ul style="list-style-type: none"> Mixing (faster incorporation) Extrusion & Calendering 	At beginning of mix cycle with polymer(s)	NR** BR** CR** IIR*	60 NS Ultra Blend 6000 Rhenosin 260

HIGH PERFORMANCE

Description	Properties				
	Appearance	Specific Gravity, g/cm ³	Melting Point, °C	Zinc Content, %	Acid Number
VANFRE® AP-2 Processing Aid Proprietary zinc and fatty acid blend	Off-white to light tan flakes	0.98	85, minimum, Initial	1.8 - 2.5	—
VANFRE AP-2 SPECIAL Zinc Soap of Unsaturated Fatty Acids	Off-white to light tan flakes	0.98	85, minimum, Initial	1.8 - 2.5	—
VANFRE APD Proprietary fatty acid esters and wax blend	White to off-white pastilles	—	85, minimum	2.0, minimum	—
VANFRE HYP Proprietary blend of fatty alcohol and ester blend	Off-white to light tan friable flakes	0.97	90, minimum, Final	—	—
VANFRE UN Fatty alcohol phosphate	Clear pale yellow liquid	0.96 - 1.00	—	—	260 - 280 mg KoH/g
VANFRE VAM Complex organic phosphate ester	Off-white to light	0.97	—	—	96 - 112 mg KoH/g

Function and Application	High Performance Property	Dosage	Packaging	Suitable For: **Very Good *Good
<ul style="list-style-type: none"> Processing aid in natural and synthetic rubbers Reduces compound plasticity, improves mold flow and release 	<ul style="list-style-type: none"> Has little adverse effect on optimum physical properties in all polymers and cure systems 	2 - 4 phr	125 lb Fiber Drum	NR** SBR** NBR** EPDM** IIR** HNBR** CR* FKM*
<ul style="list-style-type: none"> Processing aid in natural and synthetic rubbers Reduces compound plasticity, improves mold flow and release Has little adverse effect on optimum physical properties 	<ul style="list-style-type: none"> VANFRE AP-2 SPECIAL provides the same high performance but is designed for FDA compliant applications 	2 - 4 phr	125 lb Fiber Drum	NR** SBR** NBR** EPDM** IIR** HNBR** CR* FKM*
<ul style="list-style-type: none"> Processing aid in natural and synthetic rubbers Reduces compound plasticity, improves mold flow and release Has little adverse effect on optimum physical properties 	<ul style="list-style-type: none"> FDA Compliant Little adverse effect on compound properties 	2 - 4 phr	50 lb Fiber Box	NR** SBR** NBR** EPDM** IIR** HNBR** CR* FKM*
<ul style="list-style-type: none"> Processing aid for rubber to reduce plasticity, improve mold flow and release, without adversely affecting physical properties FDA compliant for FDA 21 CFR Sections 175.300, 177.1210 	<ul style="list-style-type: none"> Developed for Hypalon® CSM applications and improves performance in CPE 	1 - 3 phr	125 lb Fiber Drum	CSM** CPE** CR*
<ul style="list-style-type: none"> For ethylene/acrylic elastomers for improving release from mill rolls, molds and other processing equipment 	<ul style="list-style-type: none"> Improves metal release in acrylic elastomers 	2 - 4 phr	40 lb Pail or 425 lb Metal Drum	AEM** ACM*
<ul style="list-style-type: none"> Processing aid for Vamac®, ethylene/acrylic elastomer and for evaluation in other solvent-resistant polymers 	<ul style="list-style-type: none"> Developed for Vamac® AEM applications and excellent performance in ACM and ECO 	0.5 - 1.5 phr	50 lb Fiber Box	AEM** ACM** ECO**

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