

FUNCTIONAL V-160P2

22 SSI PAO-BASED VISCOSITY INDEX IMPROVER

APPLICATION:

FUNCTIONAL V-160P2 is a readily biodegradable olefin copolymer viscosity index improver formulated in low viscosity polyalphaolefin (PAO) that may be used to prepare PAO hydraulic fluids (HEPR) with greater biodegradability or to improve the low temperature fluidity and pour point of non-PAO formulations. **FUNCTIONAL V-160P2** is also an economical replacement to high viscosity metallocene PAO for increasing viscosity without diminishing compatibility with other polymers or additives in the formula.

COMPOSITION:

FUNCTIONAL V-160P2 is a concentrated olefin copolymer in light polyalphaolefin.

Typical Properties	
Specific Gravity	0.81
Lbs per Gallon	6.75
Color (ASTM D1500)	Colorless, Hazy (< 1.0)
Flash Point	146°C (295°F)
Kinematic Viscosity (ASTM D445)	900-1100 cSt at 100°C 8000 cSt at 40°C (VI ~370)
Thickening Efficiency (10wt%; KV at 100°C)	12.2 cSt in ISO 32 Gr. I 11.9 cSt in PAO6
Shear Stability (PSSI; 10wt% in ISO 32 Gr. I)	22 SSI by ASTM D6278, 30 cycles
Pour Point (ASTM D97)	-33°C / -27.4°F
Biodegradability (CEC L-33-T-82)	Approx. 65% (Readily)
Biobased Content	0wt%

TREATMENT LEVEL:

Treatment levels from 5 - 20% are typical in industrial lubricants and greases.

See next page for comparison of **FUNCTIONAL V-160P2** against 100 cSt PAO.

HANDLING:

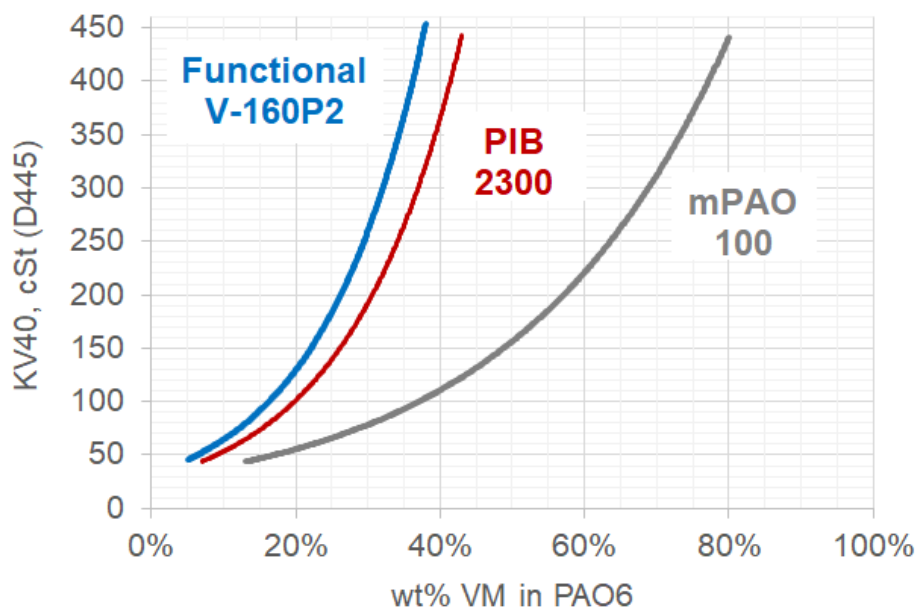
Due to the viscosity of **FUNCTIONAL V-160P2**, elevated temperature (up to approximately 90°C or 200°F) can facilitate handling. Safe handling precautions are the same as those to be taken with the base oil; see the current Safety Data Sheet.

This Technical Data Sheet and the Safety Data Sheet contain information believed to be accurate and reliable. No warranty is made, however, to information beyond the control of FUNCTIONAL PRODUCTS INC. The engineering and management personnel of the user are responsible for determining the suitability of this or any product for any specific application, and this information is offered to them for that purpose.

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Comparison of V-160P2 vs. Synthetic Viscosity Modifiers in PAO 6:

ISO VG	PAO	PB	OCP	VI
	mPAO	PIB	Functional	
	100	2300	V-160P2	
	wt%	wt%	wt%	
ISO 46	13%	7%	5%	173
ISO 68	25%	14%	11%	185
ISO 100	40%	20%	16%	193
ISO 150	50%	27%	22%	203
ISO 220	60%	32%	28%	211
ISO 320	70%	38%	33%	219
ISO 460	80%	43%	38%	227



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