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MOLYKOTE® 211 Fluid

Heat-stabilized dimethyl polysiloxane fluid developed specifically for use in automotive fan clutches

Features

- Excellent high-temperature stability
- Controlled shear viscosity
- Provide uniform performance under high shear rates over wide temperature ranges
- Minimal viscosity change when subjected to severe heat and shear stresses
- No intentional polytetrafluoroethylene (PTFE) or per- and polyfluoroalkyl substances (PFAS)

Composition

- Dimethyl polysiloxane
- Specialty additive

Applications

Automotive fan clutches

How to use

Blending

Although the fluid is available in a number of standard viscosity grades, occasionally an application will call for a fluid viscosity between those of the standard grades. Blending different viscosity grades of MOLYKOTE® 211 Fluid permits any desired viscosity. (See Figure 1.)

To use the chart:

- Draw a line between the two points: one on the left-hand scale (representing the high viscosity fluid available) and one on the right (representing the lower viscosity fluid).
- 2. Draw another line horizontally across the chart at the desired viscosity rating.
- 3. Draw a third line vertically through the intersection of the first two lines.
- 4. Read the top and bottom scales for blending proportions to obtain the desired viscosity.

Accuracy will be increased by blending the two fluids with viscosities that most closely bracket the desired viscosity. If a very accurate blend is required, the viscosity of the mixture may have to be adjusted using a second blending.

 $\label{eq:example} \begin{array}{l} \mathsf{EXAMPLE}-\mathsf{A}\ 7,000\text{-}\mathsf{cs}\ \mathsf{fluid}\ \mathsf{is}\ \mathsf{desired},\ \mathsf{and}\ 12,500\text{-}\mathsf{cs}\ \mathsf{fluid}\ \mathsf{is}\\ \mathsf{blended}\ \mathsf{with}\ 4,000\text{-}\mathsf{cs}\ \mathsf{fluid}.\ \mathsf{Thus},\ \mathsf{a}\ \mathsf{line}\ \mathsf{is}\ \mathsf{drawn}\ \mathsf{from}\ 12,500\ \mathsf{on}\\ \end{array}$

Typical properties

Specification writers: These values are not intended for use in preparing specifications. Please contact your local MOLYKOTE[®] sales representative prior to writing specifications on this product.

Standard	Test	Unit	Result
	Appearance		Amber to Brown
CTM 0006 ¹	Flash Point, open cup	°C (F)	304 (580)
CTM 0001A	Specific Gravity, @25 ºC (77F)	g/ml	0.97
CTM 0004	Viscosity, @25 °C (77F)	mm²/s (cSt)	±5% of viscosity grade
CTM 0747	Viscosity-Temperature Coefficient ²		0.6
CTM 0001	Coefficient of Expansion,	cc/cc/F	5.3 x 10 ⁻⁴
CTM 0133	Pour Point	°C	-50 to -43

1.Corporate Test Method. Method available on request.

2. 1 – [viscosity @99C (210 F)]/ [viscosity @25C (100 F)]

t he left to 4,000 on the right (line A), and a horizontal line (B) is drawn at 7,000. The intersection point (AB) gives the proportions needed – in this case, 40 percent of 12,500-cs fluid and 60 percent of 4,000-cs fluid.

Handling precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION.

Usable life and storage

When stored at or below 32 °C (90 F), MOLYKOTE [®] 211 Fluid has a usable life of 60 months from the date of production.

Packaging

This product is available in different standard container sizes as shown on **molykote.com**. Detailed container size information should be obtained from your nearest MOLYKOTE[®] sales office or MOLYKOTE[®] distributor.

Figure 1: Blending Chart

Obt

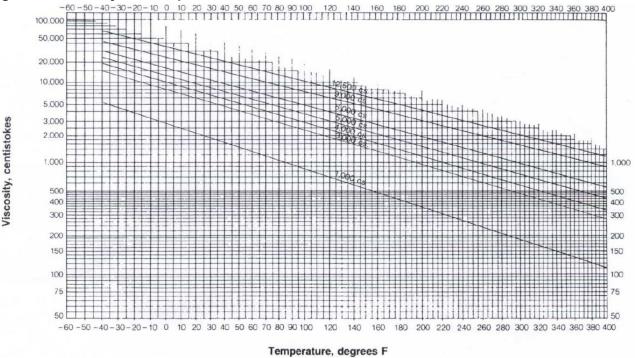
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Viscosity of Higher Viscosity Fluid, at 25 C (77 F), cs ____

MOLYKOTE® 211 Fluid available viscosity grades

tain an intermediate viscosity by blending standard viscosity grades.	<u>Viscosity, at 25C (77 F)</u>	<u>Unit</u>
	2,000	cSt
	3,000	cSt
Weight of Higher Viscosity Fluid, percent	4,000	cSt
2,500 manual 10 10 10 10 10 10 10 10 10 10 10 10 10	5,000	cSt
	6,000	cSt
B	9,000	cSt
A 4000 0 8	10,000	cSt
	12,500	cSt
Ç J J	13,000	cSt
	15,000	cSt
	22,000	cSt
	30,000	cSt
Weight of Lower Viscosity Fluid, percent		

Figure 2: Viscosity vs. Temperature



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