

FORD VISCOSITY

1. SCOPE

This test determines the viscosity of Newtonian and near-Newtonian type paints using the Ford type efflux viscosity cup. This method is primarily for lab use and is not widely used in a production atmosphere.

2. REFERENCE

ASTM D1200 - Ford Viscosity Cup Measurement

3. MATERIALS & EQUIPMENT

3.1 A calibrated #4 Ford viscosity cup.
See Figure 1.

3.2 Tripod stand or equivalent to elevate viscosity cup and allow paint to flow into a container below.

3.3 Calibrated narrow range thermometer capable of accurate readings in 0.5° increments in the range of $25^{\circ} \pm 5^{\circ}\text{C}$.

3.4 Stop watch or other suitable stop timer capable of reading to 0.1 second.

3.5 Constant temperature bath capable of maintaining $25^{\circ} \pm 0.5^{\circ}\text{C}$. ($77^{\circ} \pm 1^{\circ}\text{F}$)

4. PROCEDURE

4.1 Prepare a well mixed homogeneous test sample, free of any foreign material or air bubbles.

4.2 Place the cup in the stand on a level surface and place a container beneath the cup to collect the paint.

4.3 Using paint in a sealed container, condition the paint to $25^{\circ} \pm 0.5^{\circ}\text{C}$ ($77^{\circ} \pm 1^{\circ}\text{F}$) in a constant temperature bath.

4.4 Place finger against the orifice in the cup and pour the paint into the cup until level with no meniscus. The preferred method is to overfill the cup and scrape the excess into the reservoir with a straight edge.

4.5 Simultaneously remove finger and start stop watch.

4.6 Stop the timer at the first break in the paint stream and record the time in seconds to the nearest 0.2 second.

4.7 Repeat the test and if the time is within one second, the average of the two results is the viscosity. If reproducibility is not within one second, repeat until results are consistent.

4.8 Following each determination, clean the cup by the use of a suitable solvent and a soft brush. Under no conditions should metal cleaning tools be brought into contact with the instrument. Particular care must be exercised in cleaning the orifice to avoid any film deposit or nicks on the inside walls.

5. REPORT

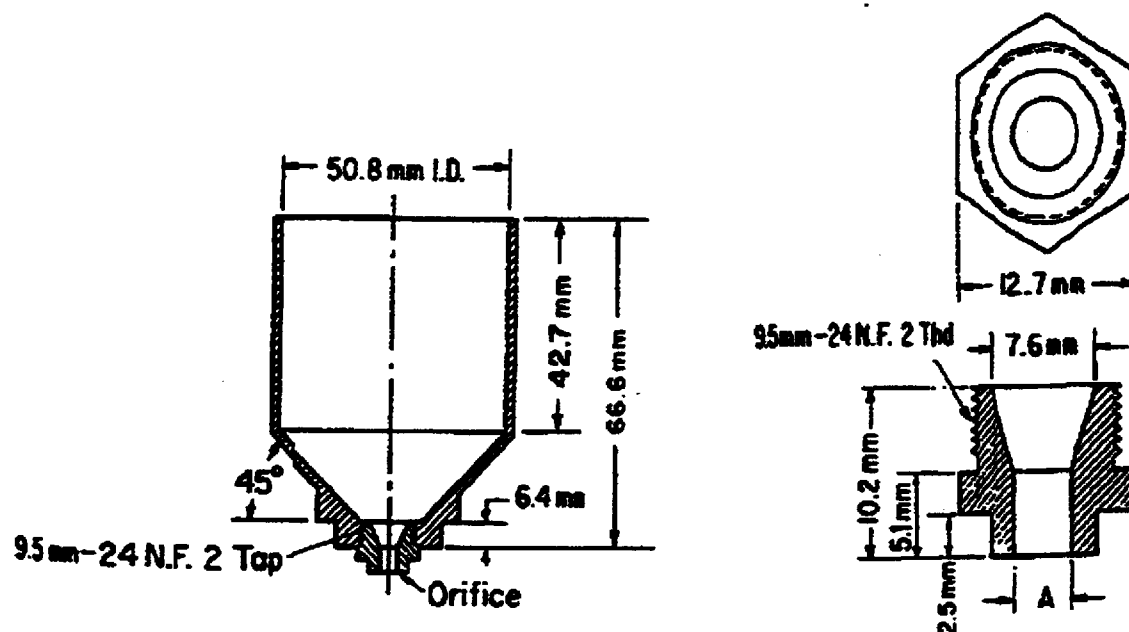
5.1 Report the average time to the nearest second which is the Ford viscosity.

5.2 The viscosity is acceptable if it is within the range specified. **NOTE:** Ford viscosity cups should be calibrated each time the orifice is removed and on an annual basis using standard oils per ASTM D1200.

					NAME	STD FORD/ZAHN VIS		
					 NEW HOLLAND		ENGINEERING SPECIFICATION	
ALL	B	RLF	110274	JUL 97			FRAME 1	OF 3
ALL	A	RE	104739	940216			PART NUMBER	
FRAME NO.	REV	BY	ECN NO.	DATE				
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MATERIALS / PAINTS

FNHA-2-J-001.05



Orifice	A, mm
No. 4	4.12

#4 Ford Viscosity Cup Dimensions
Figure 1

NAME	PART NUMBER		
	REV.	FRAME	OF
STD FORD/ZAHN VIS	B	2	3
ENGINEERING SPECIFICATION			
86507640			