

## STANDARD TEST PROCEDURE: 390-D

**TITLE:** North Fineness Number

**PRODUCT:** Geon® Dispersion Resin

**TYPE:** Physical Testing

**ASTM REFERENCE:** D1210

Revision No.:	Date:	Changes:
D	24 March 1998	General procedure update
C	25 July 1991	Identify specific plastisol preparation procedures

### I. SCOPE

This procedure determines the North Fineness Number of dispersion resins in a 3 to 5 ratio of DOP, or DINP and resin.

### II. PRINCIPLE

The dispersion resin is mixed in a plasticizer and a Hegman Grind Gauge is used to determine the fineness of grind. The plastisol is then drawn down the channel, and the point at which the majority of the particles or bumps appear is determined. The corresponding North Fineness number is then assigned.

### III. INTERFERENCES

Minor changes in the plasticizer temperature and alterations in the mixing procedure will cause errors.

### IV. PRECISION

None.

### V. SAFETY PRECAUTIONS

- A. Keep hands, fingers and foreign objects away from any mixer when it is in motion.
- B. Follow all other normal safe laboratory practices.
- C. Di (2-ethylhexyl) phthalate, commonly referred to as DOP, is a suspected carcinogenic substance. It should be handled in such a manner as to eliminate skin contact. If skin contact cannot be avoided,

protective measures should be taken or impervious gloves worn. Caution should also be exercised during cleaning operations.

- D. If the Hobart mixing bowl or 400 ml beaker is fused in an oven to remove plastisol. This practice should be accompanied with adequate ventilation and air monitoring procedures to insure the prevention of breathing the fumes. For further information refer to the product's current Material Safety Data Sheet.

## **VI. APPARATUS**

- A. Northfines (Hegman) Grind Gauge, twin channel, with Adco scraper. Channels are tapered from 0.0040" deep to a North Fineness reading of 0, to 0.0000" at a reading of 8. Channels are 1/2" wide, 5" long over the calibrated range. Made by Precision Gauge and Tool Co., Dayton, Ohio.

## **VII. REAGENTS**

Plastisol to be tested.

## **VIII. PROCEDURE**

- A. With the gauge lying flat, put enough of the plastisol to be tested in the deep end (0 reading) of the NS channel so that it will overflow slightly. Holding the scraper, tilted slightly forward, perpendicularly between the thumb and index fingers of both hands, draw it down the channel from the deep end to beyond the shallow end of the channel with steady continuous motion.
- B. Read the North fineness at once, as follows: (see Appendix I for illustrations)
1. View the gauge from the side, not the end, with the angle between the surface of the block and the line of vision at about 30 degrees.
  2. Hold the gauge in such a light that the pattern is most readily visible.
  3. Read the numerical point at which many particles or bumps appear through the surface of the paste, disregarding isolated or occasional particles in the deeper end of the channel. Usually a point can be noted at which the number of particles increased sharply; read the next lowest 1/2 unit of a North Fineness division. Do not attempt to read any closer than 1/2 unit.

## **IX. CALCULATIONS**

None.

## **X. SPECIAL INSTRUCTIONS**

None.

## **XI. REPORT**

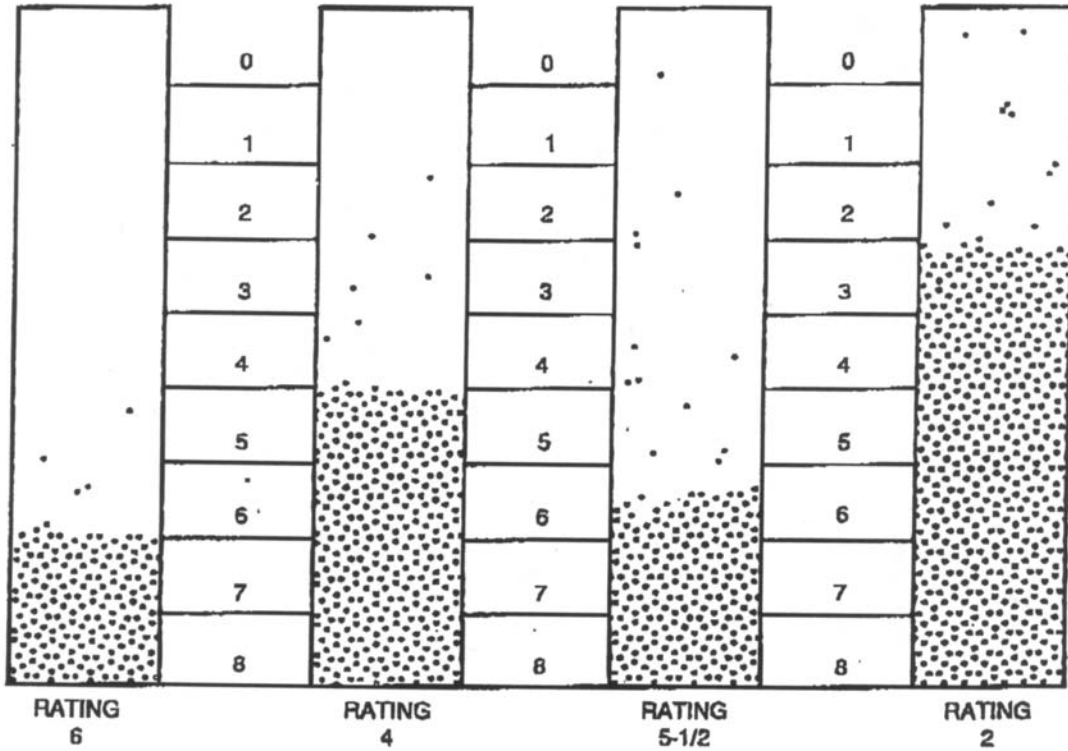
Report the North Fineness Number as read from the Hegman Grind Gauge, not closer than 1/2 unit.

## **XII. REFERENCES**

- A. ASTM Test Procedure D1210

Appendix I

**NORTH FINENESS**



**POSSIBLE RATINGS**

0	
1/2	4-1/2
1	5
1-1/2	5-1/2
2	6
2-1/2	6-1/2
3	7
3-1/2	7-1/2
4	8