

Surface Finish of AP Tech Products

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Method Of Surface Finish Inspection

Surface finish inspection of AP Tech products is performed using visual methods coupled with roughness measurement using profilometers. Procedures used in obtaining surface finish readings are in accordance with guidelines established in the following standards:

- ANSI B46.1 – Surface Texture: Surface Roughness, Waviness and Lay
- SEMATECH 90120400B-STD – Test Method for Determination of Surface Roughness by Contact Profilometry for Gas Distribution System Components

Equipment

Surface finish inspection equipment used by AP Tech include the following:

- Federal Products Surfalyzer 5000 (skidless type) with high resolution 0.0001” and 0.0002” stylus radius
- Federal Products Pocket Surf I (skid type) with 0.0002” stylus radius

Terminology

The following definitions apply to the terminology used in this document and other AP Tech literature:

Ra - Arithmetic Average Roughness as defined in ANSI B46.1– Surface Texture: Surface Roughness, Waviness and Lay.

Ra Maximum - The maximum Ra reading obtained on a sample when multiple roughness readings are taken.

Ra Average – The average of all Ra readings obtained on a sample.

Surface Finish Capability Study Data

The following table summarizes the historical data from surface finish capability studies performed by quality control for standard, 10 Ra, 7 Ra, and 5 Ra products:

Surface Finish Grade (code)	Ra Maximum	Ra Average
Standard	15 µin (0.38 µm)	7 µin (0.18 µm)
10 Ra (M)	10 µin (0.25 µm)	5 µin (0.13 µm)
7 Ra (V)	7 µin (0.18 µm)	3.6 µin (0.09 µm)
5 Ra (X)	5 µin (0.13 µm)	3.3 µin (0.08 µm)

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