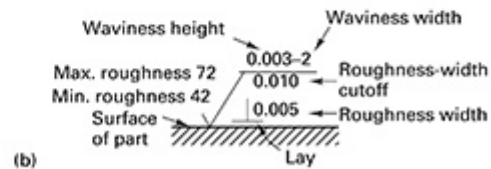
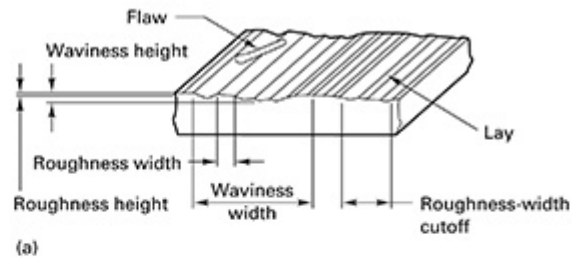


R_T = Maximum roughness depth (peak to valley) along l_m

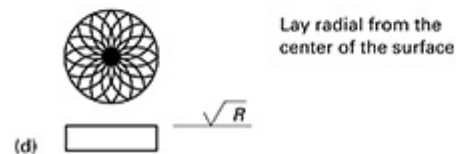
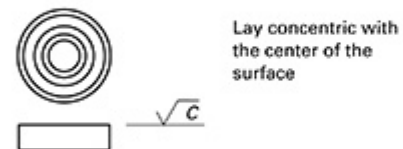
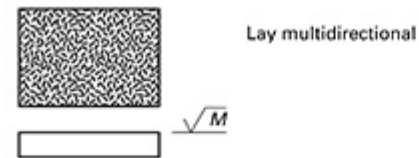
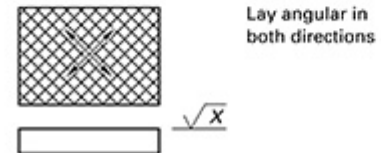
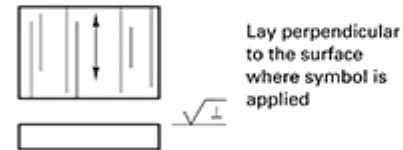
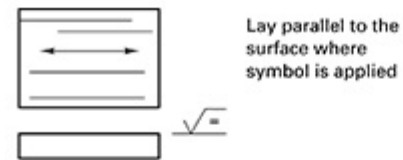
R_A = Arithmetic roughness average

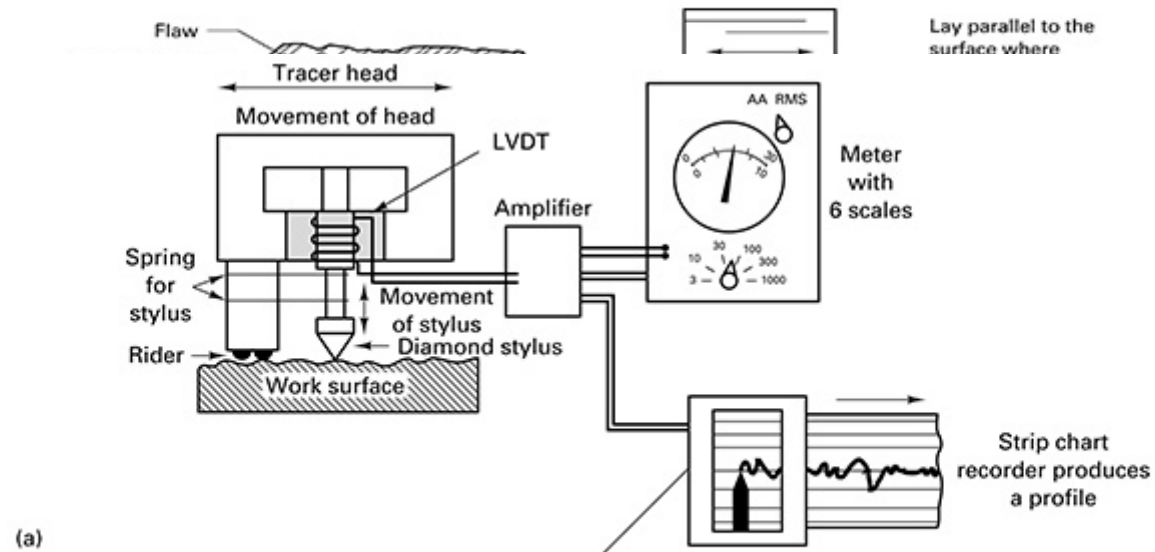


Lay symbols

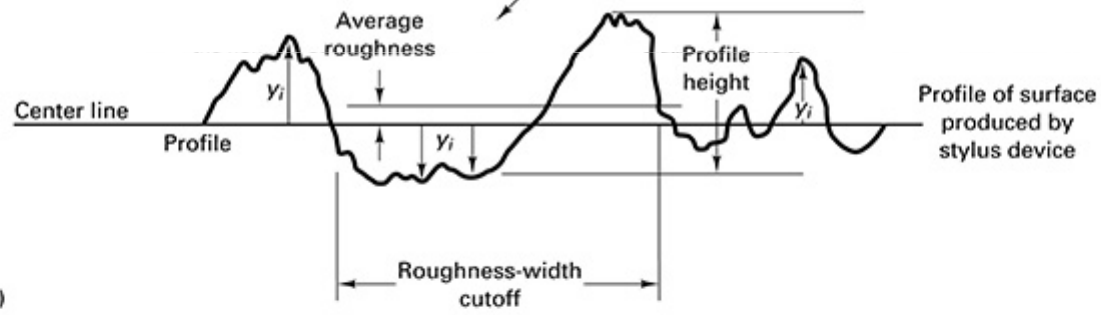
- = Parallel to the boundary line of the nominal surface
- ⊥ Perpendicular to the boundary line of the nominal surface
- X Angular in both directions to the boundary line of the nominal surface
- M Multidirectional
- C Approximately circular relative to the center
- R Approximately radial relative to the center of the nominal surface

(c)

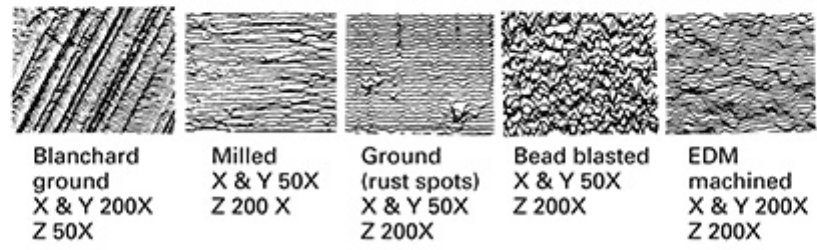




(a)



(b)



(c)

Roughness Parameters - The finer irregularities in the surface texture which are inherent in the production process. These are a measure of the vertical characteristics of the surface.

Sampling Length-

- The area selected for assessment and evaluation of the roughness parameter having the cutoff wavelength.
- Any surface irregularities spaced farther apart than the sampling length are considered waviness. Also known as cutoff length.

Surface Texture-

- The topography of a surface composed of certain deviations that are typical of the real surface. It includes roughness and waviness.

Ra -Arithmetical mean deviation

The average roughness or deviation of all points from a plane fit to the test part surface. Available for profile and areal data.

Ra -Arithmetical mean deviation

$$R_a = \frac{\sum_{i=1}^n |y_i|}{n}$$

- **Rq** Root-mean-square (rms) roughness
- **(rms)**
- . The average of the
- measured height deviations taken within the evaluation
- length or area and measured from the mean linear
- surface. Available for profile and areal data. Rq is the
- rms parameter corresponding to Ra.

Root-mean-square (rms) roughness (**rms**)

$$rms = \frac{\sum_{i=1}^n |y_i|^2}{n}$$

- **Rmax**
- Maximum peak-to-valley profile height
- . The greatest peak-to-valley distance within any one sampling length

- .

Rmax

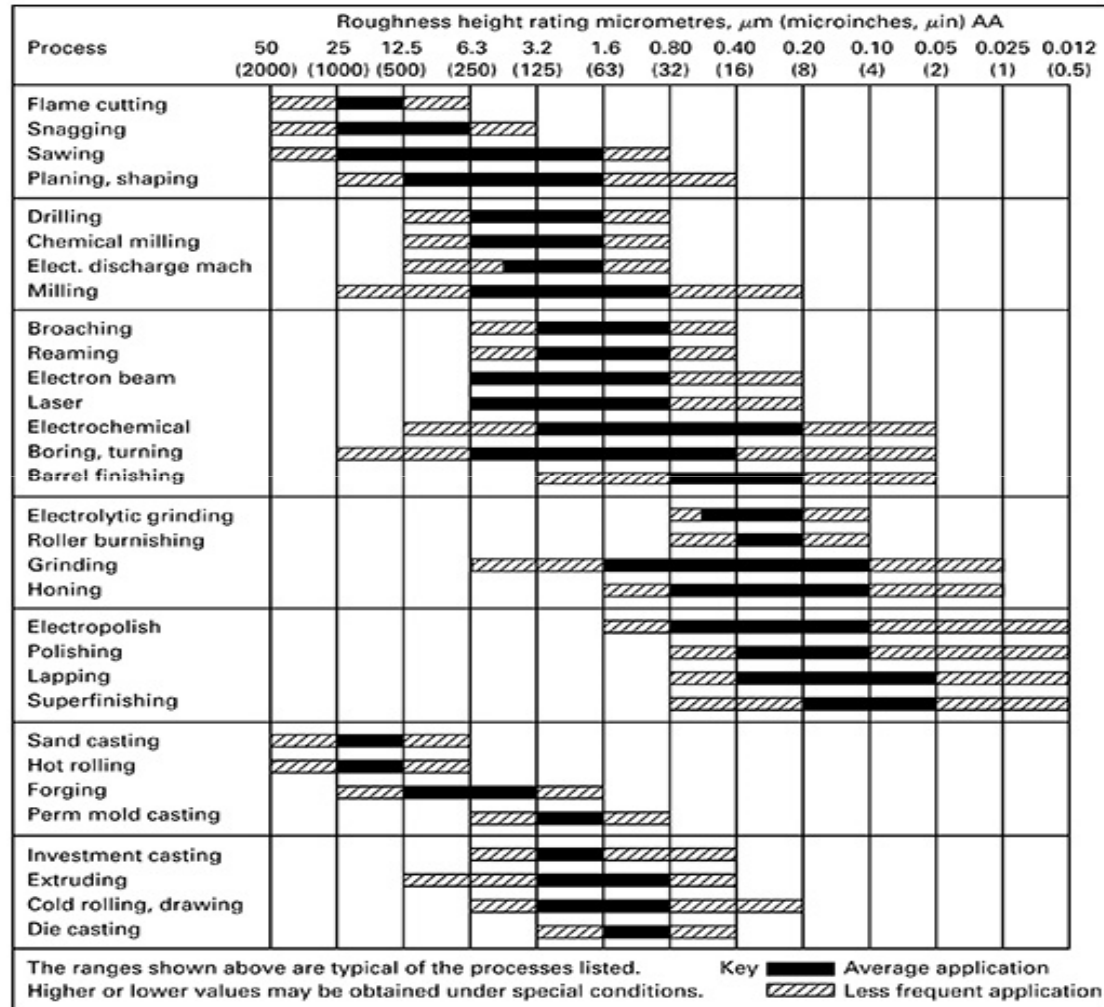
Maximum peak-to-valley profile height

- . The greatest peak-to-valley distance within any one sampling length

Rp(Peak)

Highest peak. The maximum distance between the mean line and the highest point within the sample. It is the maximum data point height above the mean line through the entire data set. Available for profile and areal data.

EFFECT OF A TECHNOLOGY



Extracted from General Motors Drafting Standards, June 1973 revision