

## needle coke

The commonly used term for a special type of coke with extremely high graphitizability resulting from a strong preferred parallel orientation of its turbostratic layer structure and a particular physical shape of the grains.

Note:

Needle coke is derived mainly from clean (i.e. lacking hetero atoms and solids) and highly aromatic (i.e. several condensed rings per cluster) feedstocks with a very low concentration of insolubles. Upon solidification a material with a distinctive streaked or flow-like macroscopic appearance is produced. Upon grinding the coke breaks up first into macroscopic needles and then, after further grinding, into microplatelets. Sometimes the word 'acicular' is used as a synonym for needle-like.

**Source:**

PAC, 1995, 67, 473 (*Recommended terminology for the description of carbon as a solid (IUPAC Recommendations 1995)*) on page 497