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FORMAT FOR SYNOPSIS OF INDIAN STANDARDS

Number and Title of the Indian Standard:

IS 17307:2019 Carbon fibre – Determination of filament diameter and cross
/ISO 11567:2018 sectional area

Doc TXD 40 (14031)

Scope:

This document specifies five test methods used for the determination of the diameter and cross-sectional area of single carbon fibre filaments.

The shape of the cross-section of the filaments from different suppliers can vary significantly. The term “diameter” used in this document applies to all cases, from a “true” diameter, where the filament is exactly circular in cross-section, to an “apparent” diameter where the filament is not circular.

The methods proposed are not necessarily directly applicable to all types of filament. The product specification determines the method to be used. If there is no specification, the selection of the appropriate method is a matter of judgement. The details given here are considered to be sufficiently precise to enable this choice to be made.

Salient features of content:

Five methods are proposed for the determination of the diameter and cross-sectional area of carbon fibre filaments:

— Method A:

Determination of the diameter by calculation.

— Method B:

Determination of the diameter by optical microscopy.

— Method C:

Determination of the diameter and cross-sectional area of transversely cut filaments by microscopy.

— Method D:

Determination of the diameter by laser diffractometry.

— Method E:

Determination of the diameter by scanning electron microscopy.

NOTE Method A gives only an average value of the diameter, which can be sufficient in certain cases, while methods B, C, D and E, which are experimental methods, provide actual values.