Plain bearing failures

2.1

Foreign matter

Characteristics
Fine score marks or scratches in direction of motion, often with embedded particles and haloes.

Causes
Dirt particles in lubricant exceeding the minimum oil film thickness.

Wiping

Characteristics
Surface melting and flow of bearing material, especially when of low-melting point, e.g. whitemetals, overlays.

Causes
Inadequate clearance, overheating, insufficient oil supply, excessive load, or operation with a non-cylindrical journal.

Foreign matter

Characteristics
Severe scoring and erosion of bearing surface in the line of motion, or along lines of local oil flow.

Causes
Contamination of lubricant by excessive amounts of dirt particularly non-metallic particles which can roll between the surfaces.

Fatigue

Characteristics
Cracking, often in mosaic pattern, and loss of areas of lining.

Causes
Excessive dynamic loading or overheating causing reduction of fatigue strength; overspeeding causing imposition of excessive centrifugal loading.