1.5 DEFECTS IN RAILS

Rail wear and the battering of rail ends are the two major defects in rails. However, some other types of defects may also develop in a rail and necessitate its removal in extreme cases. These are described below.

Hogging of rails

Rail ends get hogged due to poor maintenance of the rail joint, yielding formation, loose and faulty fastenings, and other such reasons. Hogging of rails causes the quality of the track to deteriorate. This defect can be remedied by measured shovel packing.

Scabbing of rails

The scabbing of rails occurs due to the falling of patches or chunks of metal from the rail table. Scabbing is generally seen in the shape of an elliptical depression, whose surface reveals a progressive fracture with numerous cracks around it.

Wheel burns

Wheel burns are caused by the slipping of the driving wheel of locomotives on the rail surface. As a consequence, extra heat is generated and the surface of the rail gets affected, resulting in a depression on the rail table. Wheel burns are generally noticed on steep gradients or where there are heavy incidences or near water columns.

Shelling and black spots

Shelling is the progressive horizontal separation of metal that occurs on the gauge side, generally at the upper gauge corner. It is primarily caused by heavy bearing pressure on a small area of contact, which produces heavy internal shear stresses.

Corrugation of rails

Corrugation consists of minute depressions on the surface of rails, varying in shape and size and occurring at irregular intervals. The exact cause of corrugation is not yet known, though many theories have been put forward.