Magnitude and Direction of Creep Railway Engineering

What is Creep

Creep is not constant over a given period, it is not continue in one direction or at uniform rate. Both the rails of the track may creep in same direction, perhaps both the rails reverse the direction of creep or one rail creep in opposite direction to that of other. In other words, the direction and magnitude of creep cannot be predicted.

Following are some of the items governing the direction and magnitude of creep

1. Alignment of Track

Creep is found to be greater on curves than on straights.

2. Grade of Track

Rails normally creep in the direction of downgrade through the creep in reverse direction i.e. upgrade is also possible.

3. Direction of Heavy Traffic

If heavy or loaded vehicles run in one direction and the empty train move in opposite direction then the creep is founded to be in the direction of loaded trains.

Results and Consequences of Creep

Following are some of the undesirable consequences of creep

1. The most serious effect of creep is the buckling of track in lateral directions. If unattended and not properly removed then it causes derailments which leads to accidents.
2. Sleepers do not remain at fixed position and then gauges of the track are disturbed. The alignment and rail level is also disturbed. This causes bad running of trains.
3. It becomes difficult to fix the rails with creep. It is found either too short or too long due to creep.
4. The gaps are widened at some places while closer at some places. This causes undue stresses.
5. The location of points and crossings is disturbed and it is difficult to keep correct gauge and the alignment.
6. The interlocking mechanism is also disturbed due to creep in rails.