

CE's circular no. 110

Procedure for destressing of LWR/CWR on PSC sleeper track without use of rail tensors

1.0 Precautions to be taken

- 1.1 Whenever, it is decided to carry-out destressing operation, the complete length of LWR/CWR (i.e. from one SEJ to other) to be destressed.
- 1.2 The welded panel of about 500m length on 4° curve to about 1000m length on straight track is to be destressed at a time.
- 1.3 Destressing of both the rails should be carried-out simultaneously.
- 1.4 Destressing operation should not be planned, when there is any chance of rain.
- 1.5 Destressing to be carried-out only during afternoon (i.e. after 12.00 hrs) because rail temperature shoots-up rapidly during forenoon.
- 1.6 Destressing temperature (td°C) of $t_m + 5^\circ\text{C}$ (as much as possible) to be adopted, unless otherwise specifically instructed.

2.0 Works one day in advance of distressing

- 2.1 ERCs to be removed and refixed one by one after greasing to ensure that no ERC is in jammed condition.
- 2.2 The rail temperatures to be recorded at every half an hour intervals after 12.00 hrs, one day in advance, to ensure the time at which rail temperature reaches $t_d^\circ\text{C}$.

3.0 Works on the day of distressing

3.1 Before traffic block

- 3.1.1 About 40 gangmen to be arranged from amongst existing and adjoining gangs.
- 3.1.2 A speed restriction of 30 kmph to be imposed and two cuts at 'A' to be made with the help of abrasive rail cutter at a gap of 23 mm in LWR/CWR at a distance of about 500 m to 1000 m depending on curvature of track, starting from one end of SEJ and to be clamped with joggled fish plates and screw clamps along with the released rail cut closure of 23 mm and supported on wooden block(s).
- 3.1.3 In case of curved track, one complete curve to be destressed at a time as far as possible, so that the location 'A' falls on straight.
- 3.1.4 Alternate ERCs to be removed in this stretch.

3.2 During traffic block

- 3.2.1 A traffic block of about 2 hours is to be taken one hour in advance of the time when rail temperature had reached equal to $t_d^\circ\text{C}$ on previous day.

- 3.2.2 Balance alternate ERCs to be removed starting from both ends to centre without leaving any ERC in position and rails to be lifted centrally over rail seat and placed on 32 mm dia 40 cm long M.S. rounds or on round crow bars kept over MCI inserts at every 10th sleepers. In case of curve track, the rails should also be provided with lateral support with the help of crow bars, etc. at an interval of about 20 to 30 sleepers (depending upon curvature) on inside as well as outside of curve including at the ends, so that the rail panel remains centrally above respective rail seats.
- 3.2.3 The rails should be struck with wooden hammers to help in free movement.
- 3.2.4 The damaged/unserviceable GRPs to be replaced by new GRPs.
- 3.2.5 When the rail temperature is about to reach $t_d^\circ C$, the SEJ end of the rail panel to be adjusted to the mean position so as to maintain gap as specified in para 4.6 of LWR manual. The gap available at end 'A' to be checked and if required one more cut on existing rail of track adjacent to 'A' to be made by abrasive rail cutter to ensure housing of rail panels. Then the rail panels are to be put-back to rail seat and alternate ERCs to be fixed starting from middle towards the ends. The tightening of alternate ERCs to be completed when rail temperature is $t_d^\circ C$.
- 3.2.6 The cut end 'A' of the rail panel along with suitable cut-rail closure (if the gap exceeds 23 mm) to be clamped with joggled fish plates and screw clamps and to be supported properly on wooden block(s). Then the traffic block to be cancelled.
- 3.2.7 Balance alternate ERCs also to be refixed at the earliest.

4.0 Destressing of subsequent panels of LWR/CWR

- 4.1 Similar operations as indicated vide para 2 and 3 above to be repeated for destressing of subsequent panels of LWR, till other end of SEJ is reached. However, a gap of 23 to 25 mm to be kept for welding at cut end 'A' (previously made) at $t_d^\circ C$ while performing operation as indicated at para 3.2.5 for subsequent panel. Gap to be made by one or two cuts at other end of next panel, say at 'B' will depend on final gap at 'A' after performing operation at para 3.2.5 above.
- 4.2 During welding of the cut end 'A', rail temperature to be $t_d^\circ C$ and sleeper fastenings for a length equal to breathing length (71 m in case of 52 kg rail/82 m in case of 60 kg rail on 1540 sleeper density) to be opened on both sides completely under traffic block.

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