

# Railroad Sun Kinks



National  
Railroad  
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When the temperature of steel rail changes by more than  $\pm 40^\circ$  to  $50^\circ$  F from the rail neutral temperature (rnt) expansion or contraction can occur. The drastic expansion shown here is called a sun kink, which is very dangerous for railroads. In one mile (5,280 ft.) of rail, expansion can be up to 41 inches.

When laying rail, the general practice is to lay the individual pieces of steel at a temperature that does not place the piece under stress. This temperature, which is the temperature of the steel, not the surrounding air, is generally around  $100^\circ$ F.

Rail clamps and proper ballasting can help prevent sun kinks.

