



Materials Required per km of Railway Track Formulas

Calculators!

Examples!

Conversions!

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List of 23 Materials Required per km of Railway Track Formulas

Materials Required per km of Railway Track 🖉

1) Density Factor at given Number of Sleepers per km 🛃

fx
$$\mathbf{x} = \left(2 \cdot \frac{N_s}{N}\right) - (L)$$

ex $6 = \left(2 \cdot \frac{1463}{154}\right) - (13m)$
2) Density Factor using Sleeper Density \mathbf{C}

fx
$$\mathbf{x} = \mathbf{S}.\mathbf{D}. - \mathbf{L}$$

ex 6 = 19 - 13m

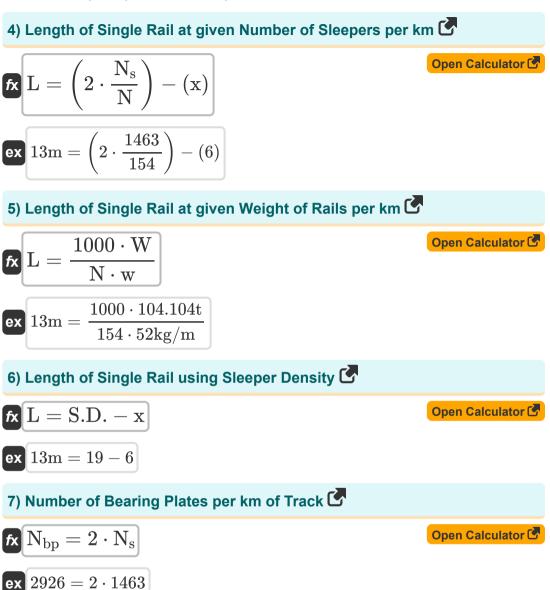
3) Length of Single Rail at given Number of Rails per km 🕑

fx
$$L = \left(\frac{1000}{N}\right) \cdot 2$$

ex $12.98701m = \left(\frac{1000}{154}\right) \cdot 2$

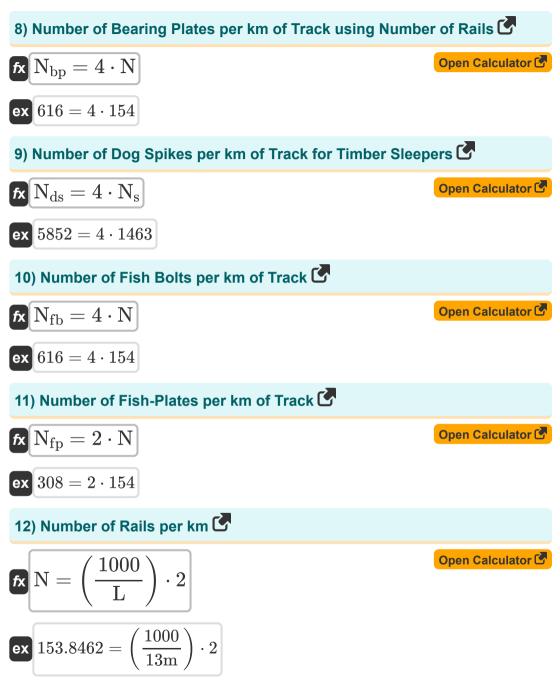


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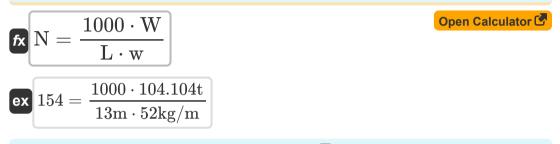




13) Number of Rails per km at given Number of Sleepers per km 🕑



14) Number of rails per km at given weight of rails per km 🖆



15) Number of Rails using Bearing Plates 🗹

fx
$$N_{Rbp} = \frac{N_b}{4}$$

(Px 731.5 = $\frac{2926}{4}$

16) Number of Rails using Fish Bolts 🕑

4

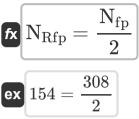


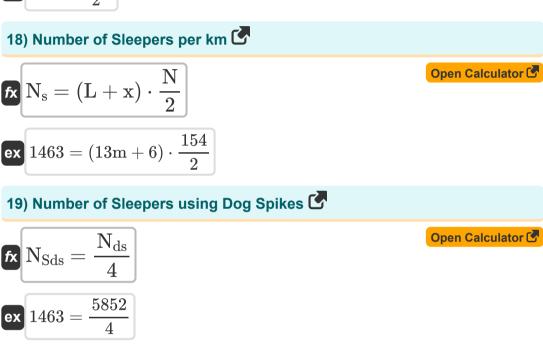




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17) Number of Rails using Fish Plates 🕻



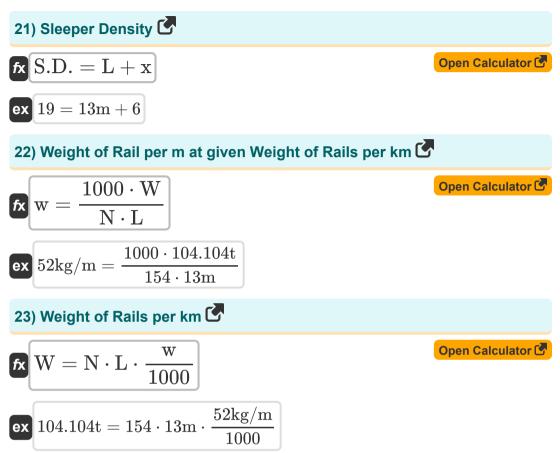


20) Number of Ssleepers using Bearing Plates 🗹













Variables Used

- L Length of Single Rail (Meter)
- N Number of Rails per Km
- N_b No of Bearing Plates using No of Rails
- N_{bp} Number of Bearing Plates per Km of Track
- Nds Number of Dog-Spikes per Km of Track
- N_{fb} Number of Fish Bolts per Km of Track
- N_{fp} Number of Fish Plates per Km of Track
- N_{Rbp} No of Rails using Bearing Plates
- N_{Rfb} No of Rails using Fish Bolts
- N_{Rfp} No of Rails using Fish Plates
- N_s Number of Sleepers per Km
- N_{Sbp} No of Sleepers using Bearing Plates
- N_{Sds} No of Sleepers using Dog Spikes
- S.D. Sleeper Density
- W Weight of Rail per Meter (Kilogram per Meter)
- W Weight of Rails per Km (Tonne)
- X Density Factor



Constants, Functions, Measurements used

- Measurement: Length in Meter (m) Length Unit Conversion
- Measurement: Weight in Tonne (t) Weight Unit Conversion
- Measurement: Linear Mass Density in Kilogram per Meter (kg/m) Linear Mass Density Unit Conversion



Check other formula lists

- Geometric Design of Railway
 Track Formulas
- Materials Required per km of Railway Track Formulas C
- Points and Crossings
 Formulas

- Rail Joints, Welding of Rails and Sleepers Formulas
- Railway Track and Track Stresses
 Formulas
- Traction and Tractive Resistances
 Formulas

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