Carbon Calculator

Saving in Carbon Emission for the Road Work (Rigid Pavement)

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| 1. Aggregates for Base and Sub-base course of pavement | | | | | | | |
| 1. Base / Natural Aggregates in estimate/tender | | | | | | | |
| Total quantity in metric ton (MT) | Lead distance from quarry (source) to road work site (km) | Source carbon emission (kg/MT)  8.1 | Standard Carbon emission in conveyance/transportation (kg/km/MT)  0.54 | Total carbon emission of Base/natural aggregates (MT) |  |  |  |
| 1. Available alternative/waste materials | | | | | | | |
| 1. Waste Ceramic Tiles: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  20 | Source carbon emission (kg/MT)  1.3 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| 1. Recycled Aggregates: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  25 | Source carbon emission (kg/MT)  1.85 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| 1. Blast furnace slag: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  60 | Source carbon emission (kg/MT)  1.8 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| 1. Brick waste: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  15 | Source carbon emission (kg/MT)  0.24 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| Maximum saving in carbon emission of MT with alternative material at % replacement. | | | | | | | |
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| 1. Aggregates for concrete works | | | | | | | |
| 1. Base / Natural Aggregates in estimate/tender | | | | | | | |
| Total quantity in metric ton (MT) | Lead distance from quarry (source) to road work site (km) | Source carbon emission (kg/MT)  8.1 | Standard Carbon emission in conveyance/transportation (kg/km/MT)  0.54 | Total carbon emission of Base/natural aggregates (MT) |  |  |  |
| 1. Available alternative/waste materials | | | | | | | |
| 1. Waste Ceramic Tiles: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  15 | Source carbon emission (kg/MT)  1.3 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| 1. Recycled Aggregates: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  15 | Source carbon emission (kg/MT)  1.85 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| 1. Blast furnace slag: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  35 | Source carbon emission (kg/MT)  1.8 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| 1. Brick waste: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  15 | Source carbon emission (kg/MT)  0.24 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| Maximum saving in carbon emission of MT with alternative material at % replacement. | | | | | | | |
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| 1. Cement | | | | | | | |
| 1. Cement in estimate/tender | | | | | | | |
| Total quantity in metric ton (MT) | Lead distance from source to road work site (km) | Source carbon emission (kg/MT)  925 | Standard Carbon emission in conveyance/transportation (kg/km/MT)  0.54 | Total carbon emission of Base/natural material (MT) |  |  |  |
| 1. Available alternative/waste materials | | | | | | | |
| 1. Fly ash: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  20 | Source carbon emission (kg/MT)  1.04 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| 1. Biomass bottom ash: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  15 | Source carbon emission (kg/MT)  19.7 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| 1. Micro Silica: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  7.5 | Source carbon emission (kg/MT)  14 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| Maximum saving in carbon emission of MT with alternative material at % replacement. | | | | | | | |
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| 1. Sand | | | | | | | |
| 1. Base / Natural Sand | | | | | | | |
| Total quantity in metric ton (MT) | Lead distance from source to road work site (km) | Source carbon emission (kg/MT)  7.65 | Standard Carbon emission in conveyance/transportation (kg/km/MT)  0.54 | Total carbon emission of Base/natural aggregates (MT) |  |  |  |
| 1. Available alternative/waste materials | | | | | | | |
| 1. Blast furnace slag: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  80 | Source carbon emission (kg/MT)  5.46 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| 1. Waste glass powder: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  20 | Source carbon emission (kg/MT)  0.69 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| 1. Ceramic waste powder: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  12.5 | Source carbon emission (kg/MT)  1.3 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| Maximum saving in carbon emission of MT with alternative material at % replacement. | | | | | | | |
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| 1. Steel | | | | | | | |
| 1. Base Steel Reinforcement | | | | | | | |
| Total quantity in metric ton (MT) | Lead distance from source to road work site (km) | Source carbon emission (kg/MT)  1.85 | Standard Carbon emission in conveyance/transportation (kg/km/MT)  0.54 | Total carbon emission of Base/natural aggregates (MT) |  |  |  |
| 1. Available alternative/waste materials | | | | | | | |
| 1. Glass fiber reinforced polymer (GFRP) bars: | | | | | | | |
| Lead distance from source to road work site (km) | Maximum allowable % replacement  15 | Source carbon emission (kg/MT)  2.73 | Maximum allowable lead distance (km) | Total carbon emission with Base/natural and alternative material (MT) | Saving in carbon emission (MT) | Saving in carbon emission (%) | Accepted or Rejected |
| Maximum saving in carbon emission of MT with alternative material at % replacement. | | | | | | | |
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User will give input data

15

Standard value should be given by us

After calculations, value should be displayed by program (output)