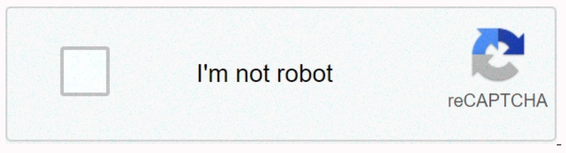

I am not robot!

Design example of rcc t beam bridge. How to build a girder bridge. Steel girder bridge design example. Rcc box girder bridge design example.

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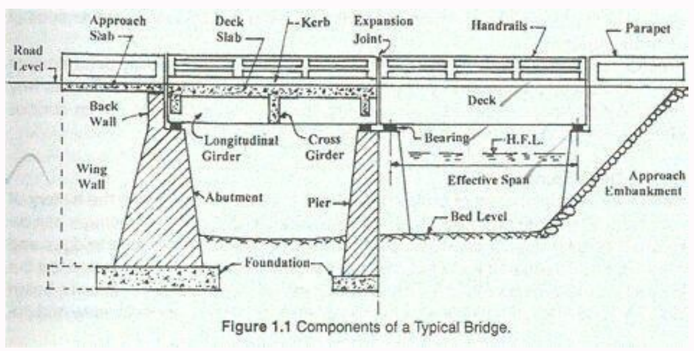

Figure 1.1 Components of a Typical Bridge.

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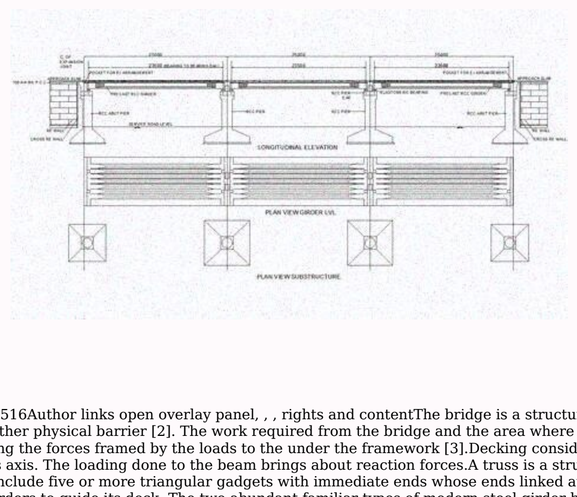

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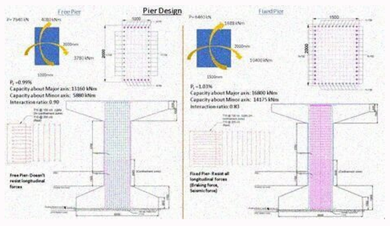
The IRC Class AA tracked vehicle that resembles an army tank of 700kN and a wheeled vehicle that resembles a heavy-duty army truck of 400kN. This project consider IRC class AA loading. On the other hand, another type of loading designated as Class 70R specified instead of Class AA loading [9].Section snippetsCourbon’s method used to analyze and design both Tee beam bridge deck and Box girder bridge deck. The following are the steps involved.Span length (centre to centre of bearings) = 16 m, Clear width of carriage way = 7.5 m, Kerbs on either side = 600 mm × 300 mm, Thickness of the wearing coat = 80 mm,Thickness of deck slab = 200 mm, There are 3 main girders and 4 cross girders provided,The three main girders provided at every 2.5 m centers,Width of main girders (centre to centre) = 300 mmThe four cross girders are provided at every 4 m centers, Width of cross girders = 300 mmDepth of main girder = 160 cm at the rate of 10 cmCross SectionDepth (d) = 0.2 m, Width (w) = 0.3 m, Wearing Course = 80 mm,Breadth of Cross Girder = 300 mmDesign of Interior SlabDead Load = 6.56 KN/m2, Dead Load on Panel = 65.6 KN,Bending moment for Short span = 2.688 KN-m,Bending moment for Long span = 1.174 KN-m, Shear force for Short span = 7.216 KNLive LoadBending moment for Long span = 12.845 KN-mBending moment for Short span = 31.010 KN-mShear force for Short span = 59.5 KNUltimate BMD & SFD for PanelShort span moment = 50.13 KN-m, Long From the above results, ultimate shear strength is within the limits as per IRC 112:2011. Hence the results conclude that for 16 m length of span, RCC Tee beam girder bridge is safe to adopt and easy to build a cast in-situ type of bridge.Since the deck is casted monolithically with slab, the flange also bears the compressive stresses that mean it will resist the sagging moment on deck more effectively.Similarly, from the results, Ultimate shear strength, minimum section modulus at serviceK.



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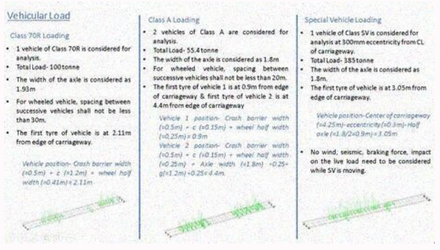

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Highways are a significant part of the infrastructure in India. Usually, most of the bridges on highways are T-beam girder bridges. This paper deals with the investigation of a T-beam girder bridge for dead load and Indian Road Congress (IRC) live loads. In this study, linear finite element analysis of a skew bridge with T-beam girders has been carried out using finite element software CSiBridge22 as per IRC provision. The skew angle, span, span-depth ratio, loading conditions, and girder spacing are all factors that influence the behaviour of a skew bridge. Two parameters i.e., span length and skew angle are used in the analysis, and the effect of these parameters on the bending moment, shear force, torsional moment, and deflection is studied. For validation, manually calculated results following the analytical method are compared with those obtained from a finite element model. A convergence study is performed to get the optimum mesh size. The findings of the study demonstrate that skew angle has a more significant effect on the bridge than other characteristics. The bending moment (BM) at the mid-span of the bridge and deflection decrease as the skew angle increases, whereas the shear force (SF) and torsional moment (TM) increase with the increase in skew angle.In this paper stir casting technique is an efficient method to improve the mechanical characteristics. It was done only on the aluminium magnesium alloy with their ceramic reinforced materials. Therefore, Al 6351 is a base matrix and ceramic strengthening reinforcement particles Titanium oxide (TiO2) makes the metal matrix composites. It was mainly related with aerospace, automotive and ship industries applications. The TiO2 was increasing the weight fraction 4, 8 and 12 % with Al6351. After processing, the processed MMCs specimens was utilized to investigating the machining studies form their appropriate process parameters like speed, feed and depth of cut. The machining performances are related with surface roughness (SR) and Material removal rate (MRR). In this research, two multi-objective techniques grey relational analysis and desirability approaches was involved to identify the optimal machining parameters.
From the outcomes, both output responses are improved with their process parameters. There is major reason behind that the increasing of TiO2 enhances the material properties.This study investigates the compression and impact of GFRP Epoxy with Hybrid Banana - Prosopis Juliflora GFRP composite. GFRP was used as the reinforcement material, and Epoxy (LY 556) and Hardener(HY951) were used as matrix materials.
The book press moulding technique fabricated composites. Compression and Impact tests were performed as per ASTM standards. G-power calculation is used for 20 samples; the mean values for group-1 and group-2 were 59.18 and 60.11, and 0.050 was the standard deviation. Based on the T-test and SPSS software analysis, Banana Fiber with 4% volume fraction of Prosopis Juliflora filler reinforced epoxy composite was significantly improved than GFRP epoxy composite without filler.View all citing articles on ScopusView full text Selection and peer-review under responsibility of the scientific committee of the International Conference on Newer Trends and Innovation in Mechanical Engineering: Materials Science.