

Metal Steel Space Frames

Metal Space frames will give the stiffness required if they are manufactured correctly. Using steel is also a lot cheaper than Carbon fibre. Also after a crash steel is repairable through welding etc.

Some of the cons include, Not corrosion resistant, a lot heavier than Carbon fibre and overall is weaker.

When constructing a race chassis I would choose Carbon fibre tubes over Steel Space frames. The light weight properties and corrosion resistance is unmatched.

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Joining causes problems with structural integrity. When welding the steel, ~~for weaker~~ steel can become weakened in the HAZ zone or heat affected zone. Welding two metals together creates tensile residual stress from the contraction of the weld once it cools, which weakens the steel's fatigue strength. One way to improve the fatigue strength is introducing compressive residual stress. Welding is a high heat process which melts two pieces of metal together with added filler material.