

APPENDIX AF-1
FSAE Structural Requirements Certification Form (SRCF)
 For use only with Appendix AF “Alternative Frame Rules”

This form must be completed and submitted by **all teams no later than the date specified in the Action Deadlines on specific event website**. The FSAE Technical Committee will review all submissions and reply with a decision about the requested design. All requests will have a confirmation of receipt sent to the team. Structural Requirements Certification Forms (SRCFs) and supporting calculations must be submitted electronically in Adobe Acrobat Format (*.pdf). The submissions must be named as follows: schoolname_srcf.pdf using the complete school name. **Please submit to the person indicated in the Action Deadlines for each event.**

***In the event that the FSAE Technical Committee requests additional information or calculations, teams have one week from the date of the request to submit the requested information.**

University Name _____ Car Number(s) & Event(s) _____
 Team Contact _____ E-mail Address _____
 Faculty Advisor _____ E-mail Address _____

| Rule Number | Rule Description | Safety Factor | Max Defl. | Brief Description of Design (Include details in attached documentation) |
|-------------|----------------------------|---------------|-----------|---|
| AF4.1 | Main Hoop | | | |
| AF4.2 | Front Hoop | | | |
| AF4.3 | Side Impact | | | |
| AF4.4 | Front Bulkhead & Supports | | | |
| AF4.5 | Shoulder Harness | | | |
| AF4.6 | Lap & Anti-Submarine Belts | | | |
| AF4.7 | Front Bulkhead Off-Axis | | | |

Safety Factor = Material Failure Strength / Effective Stress; Max Defl = Maximum Deflection (inches or mm)
 Any field may be marked as ‘n/a’ if not applicable. If more than one per item, list all and where used.

Pre-Processor Program Used _____
 Analysis Program Used _____
 Post-Processing Program Used _____
 Beam Element Type Used _____
 Shell Element Type Used _____
 Rigid Element Type Used _____
 Global Element Size _____

Include the following information for all materials used in this analysis:

Isotropic materials: E, ν , S_y (Yield Strength), S_u (Ultimate Strength)
 Orthotropic materials: E11, E22, G12, G23, G13, ν , T11, T22, C11, C22, Shear Limit
 Failure Criteria for each material (Von Mises, Tsai-Wu, etc)
 E = Young’s Modulus, ν = Poisson’s Ratio, T=Tensile Strength, C=Compressive Strength, Numbers are direction

Attachment Checklist (make sure all are included in your report)

- ✓ Details of design including geometry, materials and fabrication process
- ✓ Receipt, letter of donation or other proof for non-steel materials (composite, honeycomb, resin, etc).
- ✓ Monocoque Laminare Testing data and pictures (if applicable)

ATTACH DETAILS AND SUPPORTING DOCUMENTATION
 TECHNICAL COMMITTEE DECISION/COMMENTS

Approved by _____ Date _____

NOTE: THIS FORM AND THE APPROVED COPY OF THE SUBMISSION MUST BE PRESENTED AT TECHNICAL INSPECTION AT EVERY FORMULA SAE EVENT ENTERED

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University Name _____ **Car Number(s) & Event(s)** _____

Please attach pictures of the frame and/or monocoque below for review during the SRC process. Please label all tubes to show outer diameter and wall thickness. Three view drawings and isometric views of the structure (CAD, FEA models, etc) are acceptable. Note: The final decision about all designs will be made at technical inspection. Approval of an SRCF does not guarantee passing Technical Inspection.