**Instructions for Submission:**

This form must be completed and submitted by **all teams no later than the date specified in the Key Dates document on the Formula Student website**.

This Impact Attenuator Data (IAD) Report and supporting calculations must be submitted electronically in Adobe Acrobat Format(\*.pdf).

The submissions must be named as follows: carnumber\_universityname\_IAD.pdf using the complete university name, e.g. 087\_UniversityofAnytown\_IAD.pdf.

**Submit the IAD report as instructed on the event website.**

The IAD Judges will review all submissions. If the judges request additional information or calculations, teams have **one week from the date of the request** to submit the requested information or ask for a deadline extension.

All teams must fill out the form on page 2 of this document.

All teams must submit the relevant additional information listed below. The additional information required is dependent on whether teams are using a Self Designed IA or a FSAE Standard IA.

**For teams using a SELF DESIGNED IA:**

1. Brief description of design including reasons for selection and advantages/disadvantages, etc.
2. Schematic diagram of test method.
3. Photos of test, clearly showing deformation of IA post-test and the structurally representative section of chassis.
4. Calculations showing how the absorbed energy and decelerations have been derived from the raw data. Calculation method must be shown even if the values have been provided by an external facility.
5. Explanation of adjustments made to results when the IA is not tested under the conditions (e.g. mass and final velocity) listed in Formula Student Rule T3.19.1, to demonstrate that it does meet the requirements of rule T3.19.1.
6. Details of how teams with aerodynamic devices in front of the AIP have determined that the combination of IA and aerodynamic devices meets the requirements in rule T3.19.1 (see rule T3.19.4 for more details).
7. Where dynamic test facilities are part of the university, a letter from appropriate professional staff confirming that they supervised the test (see rule T3.19.5)
8. Any other information which the team deems relevant.

**For teams using a FSAE STANDARD IA:**

Test data is not required, but you must complete this report and include:

1. Photographs of the actual standard IA to be used by the team.
2. Receipt / proof of purchase for the actual standard IA used by the team.
3. Diagrams or drawings clearly showing how rule T3.17.8 or T3.17.9 is satisfied.
4. Any other information which the team deems relevant.

Additional information must be kept concise and relevant.

University Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Team Contact: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Faculty Advisor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| IA Type | FSAE Standard IA/ Self Designed IA |
| Material(s) Used |  |
| Description of form/shape |  |
| Length (longitudinal) / mm |  |
| Width (lateral) / mm |  |
| Height (vertical) / mm |  |
| IA to Anti-Intrusion Plate mounting method |  |
| Anti-Intrusion Plate to Front Bulkhead mounting method |  |
| Peak deceleration (<= 40 g) |  |
| Average deceleration (<= 20 g) |  |

Confirm that the attenuator contains the minimum volume 200mm wide x 100mm high x 200mm long

|  |  |  |  |
| --- | --- | --- | --- |
| Energy Absorbed (J):  Must be >= 7350 J |  | Vehicle includes front wing in front of front bulkhead? | Yes/No |
| IA Max. Crushed Displacement (mm)1: |  | Wing structure included in test? | Yes/No |
| IA Post Crush Displacement - demonstrating any return (mm)2: |  | Test Type: (e.g. barrier test, drop test, quasi-static crush) |  |
| Anti-Intrusion Plate Deformation (mm) |  | Test Site: |  |

1 This is the maximum displacement shown on your force-displacement graph

2 This is the change in length of the IAD measured after the test when unloaded.

|  |  |  |
| --- | --- | --- |
| Insert Picture of IA, Anti-Intrusion Plate which also shows the method of spacing it at least 50mm from any rigid structure |  | Insert Picture of IA, Anti-Intrusion Plate which shows the deflection was less than 25.4mm |

Figure 1: Attenuator as Constructed Figure 2: Attenuator after Impact

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| --- |
| Force-Displacement Curve |

Figure 3: Force-Displacement Curve (dynamic tests must show displacement during collision and after the point v=0 and until force becomes = 0)

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| --- |
| Energy Displacement Curve. |

Figure 4: Energy-Displacement Curve (dynamic tests must show displacement during collision and after v=0)

Insert Technical Drawings

*(use sufficient pages that these drawings are clear)*

**Attach additional information below this point and/or on additional sheets.**

Additional Information **required** in this report:

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