This form must be completed and submitted by **all teams no later than the date specified in the Action Deadlines on Formula Imperial**. The Formula Imperial Technical Committee will review all submissions which deviate from the Formula Hybrid® rulesand reply with a decision about the requested deviation. All requests will have a confirmation of receipt sent to the team.Impact Attenuator Data (IAD) and supporting calculations must be submitted electronically in Adobe Acrobat Format(\*.pdf). The submissions must be named as follows: schoolname\_IAD.pdf using the complete school name. **Submit the IAD report as instructed on the event website.**

\*In the event that the Formula Imperial Technical Committee requests 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.

University Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Car Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Team Contact: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ E-mail Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Faculty Advisor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ E-mail Address:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| Material(s) Used |  | |
| Description of form/shape |  | |
| IA to Anti-Intrusion Plate mounting method |  | |
| Anti-Intrusion Plate to Front Bulkhead mounting method |  | |
| Peak deceleration (<= 40 g's) |  | |
| Average deceleration (<= 20 g's) |  | |
| Vehicle Mass | Amount = |  |

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

|  |
| --- |
| Force-Displacement Curve |

Figure 1: Force-Displacement Curve (dynamic tests must show displacement during collision and after the point v=0 and until force becomes = 0)

**ATTACH PROOF OF EQUIVALENCY**

TECHNICAL COMMITTEE DECISION/COMMENTS

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Approved by\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_

**NOTE: THIS FORM AND THE APPROVED COPY OF THE SUBMISSION MUST BE PRESENTED AT TECHNICAL INSPECTION**

University Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Car Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |
| --- |
| Energy Displacement Curve. |

Figure 2: Energy-Displacement Curve (dynamic tests must show displacement during collision and after v=0)

|  |  |  |
| --- | --- | --- |
| 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 3: Attenuator as Constructed Figure 4: Attenuator after Impact

|  |  |  |  |
| --- | --- | --- | --- |
| Energy Absorbed (J): |  | Vehicle includes front wing in front of front bulkhead? | Yes/No |
| IA Max. Crushed Displacement (mm): |  | Wing structure included in test? | Yes/No |
| IA Post Crush Displacement - demonstrating any return (mm): |  | Test Type: (e.g. barrier test, drop test, quasi-static crush) |  |
| Anti-Intrusion Plate Deformation (mm) |  | Test Site: (must be from approved test site list on website for dynamic tests) |  |

University Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Car Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Insert Technical Drawings

Length (fore/aft direction): \_\_\_\_\_\_\_\_ mm (>=200mm)

Width (lateral direction): \_\_\_\_\_\_\_\_ mm (>=200mm)

Height (vertical direction): \_\_\_\_\_\_\_\_ mm (>=100mm)

Attenuator is at least 200mm wide by 100mm high for at least 200mm: Yes/No

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

Test schematic, photos of test, design report including reasons for selection and advantages/disadvantages, etc. Additional information shall be kept concise and relevant.

University Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Car Number\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Insert Required Calculations

**Please include:**

1. Calculations of total vehicle energy prior to impact.
2. Calculations of total energy absorbed and how this value was determined.
3. Calculations of average and peak acceleration and how these values were determined