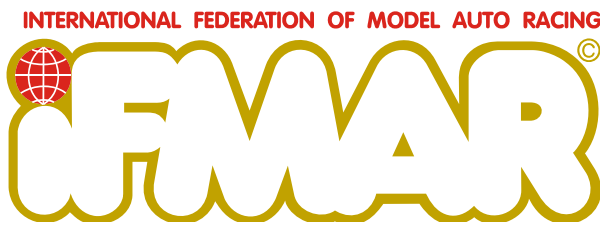


INTERNATIONAL FEDERATION OF MODEL AUTO RACING



**BATTERY
HOMOLOGATION
PROCEDURE 2010**

**SUBMISSION DATE HAVE
BEEN EXTENDED TO
FEBRUARY 5TH 2010**



Website: <http://www.ifmar.org>

IFMAR Electric Chairman

Frank Mostrey
Tenierslaan 28
B 1910 Kampenhout
Belgium

Phone: +32 16 65 75 18

Fax: +32 16 65 75 18

Email: electric.chairman@ifmar.org

Kampenhout, Belgium 2010

Dear Madame/Sir

The 2010 IFMAR World Championships for the Electric Track classes (1:12 & 1:10 ISTC) will be held in Germany early July 2010. Your company is invited to submit motors and, batteries for approval previous to this IFMAR World Championship. This document refers to approval for Batteries, (motor approval documents will be sent out separately)

NiCd, NiMh or Lithium based (LiPo/LiFe) cells and batteries can be submitted for IFMAR Approval.

Original manufacturer or their agents may request approval. IFMAR approves the construction only, which is the cell type and markings. If you wish to obtain such approval for official use at the 2010 Electric Off-road W.C. and future IFMAR W.C. events, then you must apply for approval **by 5th of February 2010** the samples of the products and the completed homologation form must be in my hands by then..

ANY PRODUCT OR FORMS RECEIVED AFTER THE CLOSING DATE will NOT BE APPROVED FOR THE 2010 ELECTRIC ON-ROAD WORLD CHAMPIONSHIPS and cannot be used by any competitor at these.

If you have any questions please contact me direct via my email address

Sincerely
Frank Mostrey
Electric Chairman, IFMAR

P.S. Make sure that, if or when sending samples for homologation purposes, you state on the Customs Declaration Form "Samples Only – No Commercial Value". Please also make sure that the package you send is free of costs for the receiver. It would also be appreciated if you also notify me by email: electric.chairman@ifmar.org that your products have been posted and if available a tracking number.



Battery: Short Information

Dear IFMAR World Attendees and Manufacturers:

The requirements are in accordance with the IFMAR Electric Buggy racing and Technical publications Extracts from the rules below for your convenience only

4.2 Batteries approval

The deadline date for submitting batteries (cells) to be approved for that year's World Championship is **5th of February 2010**. The applications must be submitted to IFMAR together with:

- Five samples of the Lithium battery closely representing the weight and size range stated OR Ten sample cells for NiCd or NiMH closely representing the weight and size range.
- A written technical specification including dimensions and weights with associated tolerances from the original cell or battery manufacturer for verification.
- Lithium based batteries must be covered by their safety test certification in accordance with UN Tests, outlined in Part 3, sub-Section 38.3 of the UN Manual of tests and criteria.
- Proof that a minimum of 2000 individual cells/batteries have been sold (by the original manufacturer or their agents) to commercial outlets in the retail or distribution sector of the hobby industry.
- A list of telephone numbers, email-addresses and postal addresses of retail suppliers, shops in each continent from whom the cells can be purchased must be provided.

A verification of availability by means of spot-checks will be made four (4) months prior to the date of the opening Ceremony of the World Championship. Failure to this verification will result in the non-approval of the product.

If a product meets all technical specifications and IFMAR availability requirements by a majority of the voting Blocs' representatives, it will be included on the Approved Product List for use at WC events.

PLEASE DO STUDY THE COMPLETE IFMAR RULES 1/10 and 1/12 th Electric before applying for approval

PLEASE READ THIS FIRST

The approval is to ensure that all competitors have equal access to the latest motors and batteries, thus ensuring wherever possible, fair racing to decide the World Champion. IFMAR makes no representation as to the quality or efficacy of the products approved. If parts of an approved motor are changed, the motor must be sent to IFMAR for re-approval.

Complete the IFMAR Battery Homologation Form.

Prepare one (1) copy of the commercial documents showing that 20,000 cells or 2000 Batteries are available and the URL addresses of shops that sell the batteries in accordance with the IFMAR Rules.

(URL's referring to these outlets in all the blocs must be provided. Availability will be checked via Internet without restriction to the addresses received.)

Send ten (10) samples of the cell or 5 samples Lithium based batteries, together with the Homologation Form to the IFMAR Electric Section Chairman

TECHNICAL SPECIFICATIONS:

A NiCd or NiMh

- 1 NiCd or NiMh Cells are rated at 1.2 volts nominal. The size of individual cell(s) to be: - Diameter 23.0 mm +0/-1 mm. Overall length 43.0 mm +0/-1.5 mm. Measurements include original manufacturer's heat shrink. Overall length is the maximum length of the complete cell including the positive button before attaching/soldering any link wires or battery bars. Dimensions taken at ambient temperature and at 90 degrees to the centre-line of the cell. It is known that 'fast charging' of cells may result in cell expansion/distortion. However, cells must never exceed the above maximum dimensions when used at a WC event
- 2 Weight of individual cells: The original manufacturers of cells are allowed a maximum of +/- 2 gr tolerance on the nominal weight of the cell stated on the technical specification/data sheet submitted at the time of approval. The mini/max weights will be detailed in the IFMAR Approved Battery List, and cells must never exceed the weight tolerances stated on the IFMAR Approved List. Any changes to the technical specifications of cells after the original approval will require re-approval using the time frame as applicable.
- 3 1/10 cars using NiMh or NiCd will be driven by a maximum of 5 cells and 6.0 volts nominal maximum. 1/12 **can** use NiMh or NiCd for propulsion. The numbers of cells is limited to 4. in this case a receiver battery pack to power the receiver and Servo is allowed. Under no circumstances may power from the receiver pack contribute to the power to the motor.

B. Lithium Based (LiPo/LiFe) Batteries:

- 1 Lithium Based (Li-Poly/LiPo/LiFe) battery packs must have a hard, protective case that completely envelopes the cell(s). The case should be made from ABS or a similar material. The two halves of the case must be factory sealed in a way that any attempt to open the case will destroy the case. The only opening in the case that is allowed is for the exit of wires or pin type connectors.

2S Battery: - Maximum external case sizes:

Length: 139.0mm

Width: 47.0mm. (The max. width includes any side exit. wires).

Height: 25.1mm. (Chassis location features additional to this dimension are allowed)

- 2 Saddle-Pack cells are allowed, but must comply with the above width and height. Furthermore they must not exceed a combined length of 139.0mm max. when placed end to end.

1S Battery: - Maximum external case sizes:

Length: 93.0mm.

Width: 47.0mm. (Side exit wires are allowed outside this dimension).

Height: 18.5mm. (Chassis location features additional to this dimension are allowed).

1S Saddle-pack cells are not allowed.

- 3 Individual cells used in the construction of the battery pack shall be rated at 3.7 volts nominal. Individual cells may be wired in parallel. For 2S packs: the maximum "In Series" is two to give a pack voltage of maximum 7.4v nominal. For 1S packs; the maximum "In Series" is one to give a pack voltage of maximum 3.7v nominal.
- 4 The battery pack shall have leads extending from the case for the positive and negative electrical connections using wire of adequate size to handle discharge rates acceptable to racing applications. Alternatively, 'Female connection tubes' to connect the power wires are allowed but the metal tubes must be well enough below the surface of the moulded case so to avoid short circuit if the pack is placed on a conductive surface. The connection points shall be clearly marked positive and negative.
5. The case must have the original suppliers label intact, clearly stating the name of the manufacturer/importer, the part number of the pack, the rated voltage, the chemistry (LiPo/LiFe), the pack capacity and the C- rating of the pack. The Brand name/logo label shall be easily readable.

TO BE RETURNED

These and the following page of the battery approval form together with Copies of invoices, receiving notes and Internet addresses where availability may be checked, etc. should be sent to:

IFMAR Electric Chairman

Frank Mostrey
Tenierslaan 28
B 1910 Kampenhout
Belgium

Phone: +32 476 555 308 **Fax:** +32 16 65 75 18 **Email:** electric.chairman@ifmar.org

If you intend to homologate more than one product please copy this page and use only one form per submitted product.

NiCd- NiMh Specification Checklist	
Brand and Name of cell	
Availability	Evidence (Invoices, etc.)
Maximum and minimum weight of single cell Confirm that 20 000 cells have been sold to commercial outlets.	

Lithium based Battery Specification Checklist	
Brand and Name of battery	
Availability (2000)	Evidence (Invoices, etc.)
Maximum and minimum weight of battery Confirm that 2000 Batteries have been sold to commercial outlets.	

Please ensure that, if or when sending samples for homologation purposes, you state on the Customs Declaration Form "Samples Only – No Commercial Value". Please also make sure that the package you send is free of costs for the receiver. It would also be appreciated if you also notify by email: electric.chairman@ifmar.org that your products have been posted and if available with a tracking number.

Shipments received against payment will not be accepted

Delayed or blocked products by authorities (beyond the submission date) will not be allowed to the approval process nor considered a reason to extend the deadline for submission.

Submissions that turn out to be subject or matter to complaints regarding international safety regulations or infringing patents will be withdrawn from the list, even after approval. In such case the submitter shall not make any claim against IFMAR, including IFMAR's representatives, employees, and subcontractors but shall indemnify these against any legal liability for claims or suits, including costs and expenses incidental thereto provided that IFMAR shall notify the submitter of any claims or suits without undue delay.

Paragraph of submittor:.....

NOTE: CLOSING DATE FOR APPROVAL IS **FEBRUARY 5TH, 2010**

BATTERY Approval FORM

NiCD NiMH cell						
Fill in the grey shaded boxes below with the details of the cell being submitted for approval					For IFMAR use only	
Requirement	Nominal	Tolerance +/- Acc		Acc	Rej	n/a
Cell Size						
Cell Diameter						
Cell Length (max 43mm)						
Cell Materials						
Cell Weight Min/Max	Gr:	Min gr:	Max gr:			
Nominal Volts						
Trade Name of Cell						
Ampere- Hr Rating						

LITHIUM BASED BATTERY						
Fill in the grey shaded boxes below with the details of the cell being submitted for approval					For IFMAR use only	
Construction type:	<input type="checkbox"/> S1 <input type="checkbox"/> S2 (thick one) <input type="checkbox"/> saddle <input type="checkbox"/> stick (tick one)					
Requirement	Nominal	Tolerance +/- Acc		Acc	Rej	n/a
Overall length mm						
Height mm						
Large mm						
Cell Materials						
Cell Weight Min/Max	Gr:	Min gr:	Max gr:			
Nominal Volts						
Trade Name of Battery						
Ampere- Hr Rating						

Company Name:

Address:

.....

Country:

I agree that the above information is correct to the best of my knowledge. I accept that the samples submitted will be used to check batteries at the IFMAR World Championships.

Signed for and on behalf of:.....By (Name) :.....

Signature: Position: