

INTERNATIONAL FEDERATION OF MODEL AUTO RACING



## BATTERY HOMOLOGATION PROCEDURE 2012

Dear Madame/Sir

The 2012 IFMAR World Championships for the Electric ON- ROAD classes (1/10 & 1/12 scales) will be held in the Netherlands this summer. 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)

Lithium based (LiPo/LiFe) batteries can be submitted for IFMAR Approval by original manufacturer or their agents. IFMAR approves the construction only, which is the cell type and markings.

If you wish to obtain such approval for official use at the 2012 Electric W.C. and future IFMAR W.C. events, then you must apply for approval **by February 10**

Be aware that the samples of the products, related documentation and the completed homologation form must be in my hands by above date.

ANY PRODUCT, DOCUMENT OR FORMS RECEIVED AFTER THE CLOSING DATE will lead to a non approval for the 2012 World Championships and by then 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



## IFMAR Electric Chairman

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### Dear IFMAR World Attendees and Manufacturers:

Requirements are in accordance with the IFMAR Electric Batteries and Motor WC rules..

Extracts from the rules below are for your convenience only

The approval is to ensure that all competitors have equal access to the latest motors and batteries to allow fair racing to decide the World Champion. IFMAR makes no representation as to the quality or efficiency of the products approved

The ultimate date for submitting batteries (cells) to be approved for that year's World Championship is **February 10<sup>th</sup>**. The applications must be submitted to IFMAR.

## 1. BATTERIES APPROVAL PROCEDURE

**From 2012, IFMAR only approves Lithium based Batteries.**

1.1 Lithium based (LiPo/LiFe) cells and batteries must be submitted for IFMAR Approval.

The original manufacturer or their agents may request approval.

The deadline date for submitting new batteries (cells) to be approved for the next World Championship is eight (8) months prior to the date of the Opening Ceremony of the World Championship. Previously approved batteries remain on the approved products list for their lifespan, or until IFMAR deem they are no longer applicable.

The applications for approval must be submitted to IFMAR together with:

- The appropriate approval form (available on request as from 10 months before a WC race)
- Four (4) samples of the product that will be used as a future comparing reference for the product to be approved.
- A written technical specification including exact dimensions (mm) and weights (gr.) with associated tolerances from the original cell or battery manufacturer for comparative verification. The specification must also include:
  - Maximum charging parameters (Amps, Voltage, C rating).
  - Case material, case thickness and case sealing process.
- Lithium based batteries must be covered by their safety test certification in accordance with UN Manual of Test and Criteria ST/SG/AC.10/11/Rev.5, Part 3, Sub-Section 38.3, Tests T1 to T8. Copy to be supplied with approval documentation.
- 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. One sample at random can be tested and 3 samples will be kept by the Section Chairman at the disposal for the appropriate IFMAR Electric Section representatives for at least until one month after the first event they were approved for. If the product meets the technical specifications it will be added to the new approved product list which will be published two (2) months before the first concerned event, provided it passes eventual availability checks by the block representatives.

These random checks may be done until seventy (70) days before the start of the first concerned event. To this effect a provisional list of submitted products together with the provided addresses will be sent to the four blocs five (5) months before the event.

## 2. BATTERIES TECHNICAL SPECIFICATION

**Lithium Based (LiPo/LiFe) Batteries:**

2.1 Lithium Based (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.

2.2 **2S Battery: - Maximum** external case sizes:

- Length: 139.0 mm.

- Width: 47.0 mm. (The max. width includes any side exit wires).
- Height: 25.1 mm. (Chassis location features additional to this dimension are allowed)

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.

2.3 **1S Battery** :- Maximum external case sizes:

- Length: 93.0 mm.
- Width: 47.0 mm. (Side exit wires are allowed outside this dimension).
- Height: 18.5 mm. (Chassis location features additional to this dimension are allowed).

Saddle-pack cells are not allowed.

2.4 Individual cells used in the construction of the battery pack shall be rated at: LiPo 3.7 volts nominal, LiFe 3.3 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 Lipo packs, or maximum 6.6v nominal for LiFe packs.
- For 1S packs: the maximum "In Series" is one to give a pack voltage of maximum 3.7v nominal for Lipo packs, or maximum 3.3v nominal for LiFe packs.

2.5 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 molded 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.

2.6 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 in Wh. and the C- rating of the pack. The Brand name/logo label shall be easily readable.

2.7 Weight of any battery is limited to +/- 4% on manufacturers' specified weight. Batteries to comply with the weights specified on the IFMAR approval list.

### 3. BATTERIES RACE PROCEDURE

3.1 IFMAR shall produce an Approved Product List which lists all the batteries/cells eligible for that year's IFMAR W.C. events. This Approved Product List shall be distributed to all competitors in the race acknowledgement package no later than two (2) months prior to the WC event.

3.2 All batteries/cells must comply with the published data contained in the current IFMAR Approved Battery List.

3.3 Modification to the original battery case by removal of material or any modification that could be deemed to affect safety is not allowed.

3.4 All batteries must be submitted to Technical Inspection for checking and marking prior to being used during Controlled Practice, Qualifying and Finals. Batteries not compliant with dimensional rules or weights will not be accepted. This may be completed at any time during the event. Cells which do not bear the Organizers mark may not be used for Controlled Practice, Qualifying or Finals.

3.5 The Organizer and IFMAR Officials may check the legality of a competitor's batteries/cells at any time during the WC event.

3.6 A weight scale will be available at all times during the event for competitors to carry out weight checks on batteries/cells.

3.7 Cells may not be charged or changed during the race.

3.8 **1/10th. Off-Road cars** will be driven by only 2S LiPo/LiFe batteries with a maximum nominal voltage of 7.4v (LiFe 6,6v)

**1/10th. Touring Cars** will be driven by only 2S LiPo/LiFe batteries with a maximum nominal voltage of 7.4v (LiFe 6,6v)

**1/12th. Cars** will be driven by only 1S LiPo/LiFe batteries with a maximum nominal voltage of 3.7v (LiFe 3.3v)

3.9 All LiPo/LiFe packs must be charged with a LiPo/LiFe-capable charger using the industry standard CC/CV. (Constant Current/Constant Voltage) charge profile.

3.10 Any competitor found to be charging Lithium based cells using a charger that is not specifically designed for LiPo/LiFe cells or using a charge profile other than the industry standard CC/CV, will be disqualified from the event.

- 3.11 LiPo/LiFe drive batteries MUST be charged in a closed 'LiPo sack' at all times. LiPo sack is defined as a receptacle designed for the purpose of charging LiPo/LiFe batteries and of a suitable construction as to contain a LiPo/LiFe fire. Any competitor found to be contravening this ruling will be disqualified from the event.
- 3.12 **2S LiPo/LiFe** batteries may be charged to a maximum of 8.40v (LiPo) resp. 7.40v (LiFe).  
**1S LiPo/LiFe** batteries may be charged to a maximum of 4.20v (LiPo) resp. 3.70v (LiFe).  
 Overcharging is a safety hazard and will not be tolerated.
- 3.13 Any competitor found to have charged LiPo/LiFe batteries to above the voltages detailed in rule 3.12 may be disqualified from the event.
- 3.14 The use of any additional heating of any type to heat a LiPo/LiFe Battery is not allowed. The use of any cooling devices or "freeze" sprays of any type to cool a LiPo/LiFe battery is not allowed.
- 3.15 Additional battery packs :
- 1/12th. Cars** are allowed to use an additional pack to power the receiver and/or servo.
- 1/10th. Off-Road Cars** are allowed to use an additional pack to power the receiver and/or servo.
- 1/10th. Touring Cars** are not allowed an additional pack to power the receiver and/or servo. Other than any battery in the electronic timing device (transponder), the above are the only additional batteries that are allowed and under no circumstances are they allowed to supply any power to the drive motor.

Above is only an extract **PLEASE DO STUDY THE COMPLETE IFMAR RULES 1/10 and 1/12<sup>th</sup> Electric before applying for approval**

If you intend to get approval for more than one product please copy page 4 and use only one form per submitted product.

**Note:** Lithium based batteries must be packed individually in such a way that they can be transported safely in carryon baggage on passenger aircraft.

**ATTENTION please check complete rulings regarding Batteries on the IFMAR website**

**Send to: IFMAR Electric Chairman**  
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 Belgium

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Please ensure that, when sending samples for approval, you state on the Customs Declaration Form: **"Samples Only – No Commercial Value"**. (For countries requiring a customs value do not exceed 18,00 USD per shipment) Please also make sure that the package you send is free of costs for the receiver. Shipments received against payment of any fee will **NOT** be accepted.

**Notify by email:** [electric.chairman@ifmar.org](mailto:electric.chairman@ifmar.org) that your products have been posted and if available the handler's tracking number.

Delayed or blocked products by any authorities, door to door providers or customs (beyond the submission date) will not be allowed to the approval process nor considered a reason to extend the deadline for submission or be subject to any claims. The decision to refuse or approve submitted objects is IFMAR's exclusive right and cannot be an issue to any claims.

**Note:** *If any part of an approved battery is changed, the battery must be re-sent to IFMAR for re-approval with a new identification number. Submitted batteries will not be returned.*

*Approved batteries stay on the approval list for their natural life span as long as specifications are not changed and that they are 100% compliant with the initially submitted batteries.*

# LITHIUM BASED BATTERY Approval FORM

<b>MANUFACTURER of battery</b>	
<b>Complete TRADE name of battery</b>	

**Addresses, phone, e-mail, URL of Reference distributors/retailers (tick valid box):**

In:  Europe:  Asia:  Australia:  Africa:  North America:  South America,

Distributor:.....

Addresses:.....

.....

Email: .....

URL: .....

or:  See attached list

Construction type: <input type="checkbox"/> S1 <input type="checkbox"/> S2 (thick one) <input type="checkbox"/> saddle <input type="checkbox"/> stick (tick one)						
Unique Part / Reference number	<small>(must also be on the pack)</small>			<b>Acc</b>	<b>Rej</b>	<b>n/a</b>
Overall length mm						
Height mm						
Large mm						
Case Material(s)						
Case thickness						
Case sealing method						
Max charging parameters	<b>Amps:</b>	<b>Volt:</b>				
Nominal Voltage						
MAmpere - Wh. Rating						

**Submitting 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 as reference to check batteries at IFMAR World Championships.

It is commonly agreed that approvals turning out not to be commercially available in a satisfactory manner or 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 sub contractors but shall indemnify these against any legal liability for claims or suits, including costs and expenses incidental thereto provided that IFMAR notifies the submitter of any claims or suits without undue delay.

Signed for and on behalf of: .....

By (Name):.....

Position: .....

.....  
Signature