



Classification Rules

Indoor Skydiving Handifly Race

2024 Edition

Effective 1 June 2024

TABLE OF CONTENTS

This document, the Classification Rules for the Handifly Race, 2024 Edition, takes effect on the 1st of June 2024.

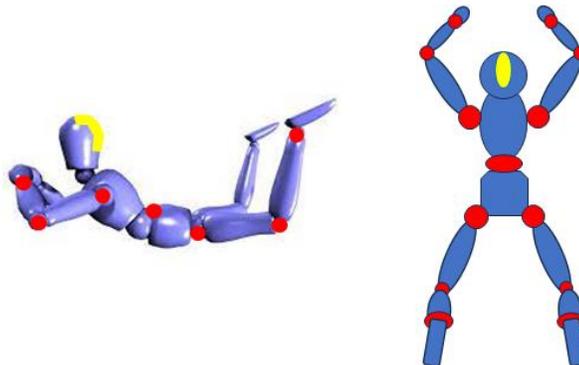
1. AUTHORITY
 2. DEFINITIONS OF WORDS AND PHRASES USED IN THESE RULES
 - 2.1. Permanent Classification Board
 - 2.2. Expert Classifier
 - 2.3. Main Joint Areas
 - 2.4. Main Aerodynamic Surfaces
 - 2.5. Eligible Impairments
 - 2.6. Aerodynamic Motor Skill
 - 2.7. Basic Coefficient
 - 2.8. Increase
 - 2.9. Decrease
 - 2.10. Final Coefficient
 - 2.11. Self-Analysis Diagram
 - 2.12. Individualized Diagram
 - 2.13. Reference Diagrams
 3. EVALUATION ITEMS
 4. ELIGIBILITY ASSESSMENT
 - 4.1. Impaired Muscle Power
 - 4.2. Impaired Passive Range of Movement
 - 4.3. Limb Deficiency
 - 4.4. Leg Length Difference
 - 4.5. Short Stature
 - 4.6. Hypertonia
 - 4.7. Ataxia
 - 4.8. Athetosis
 5. COEFFICIENT'S ASSIGNATION
 - 5.1. Step 1
 - 5.2. Step 2
 - 5.3. Step 3
 - 5.4. Step 4
 6. CLASSIFICATION BOARDS
 - 6.1. Permanent Classification Board's missions
 - 6.2. Classification Board's missions
- ANNEX 1

1. FAI AUTHORITY

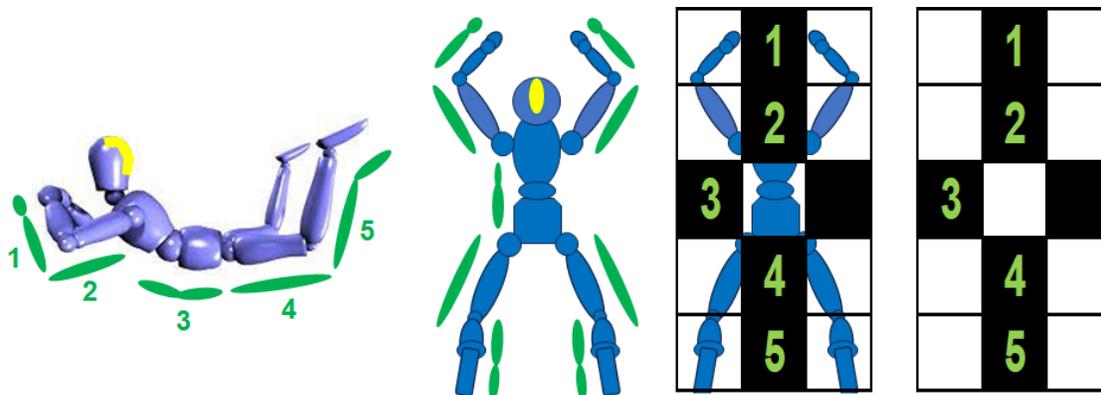
The World Series and National Championships Handifly Race classifications will be conducted under the authority granted by the organizer of the stage, according to these rules, the Competition Rules for the Handifly Race of Indoor Skydiving and the organizer's information bulletins. All participants accept these rules as binding by registering in the competition.

2. DEFINITIONS OF WORDS AND PHRASES USED IN THESE RULES

- 2.1. **Permanent Classification Board:** Permanent group of Expert Classifiers, whose total number must be odd, including no fewer than one qualified Medical Doctor and a total number of five members, appointed individually every year by the ISC Skydiving for Disabled Committee.
- 2.2. **Expert Classifier:** Person evaluated by the Permanent Classification Board and annually accredited by the ISC Skydiving for Disabled Committee for carrying out the Athlete Evaluation on Handifly Race, with technical and/or medical competence in Aerodynamic Motor Skill.
- 2.3. **Main Joint Areas:** The joints taken in consideration in Handifly Race for examining impairment situations: wrist, elbow, shoulder, spine, hip, knee, ankle. See in red on the following diagram:



- 2.4. **Main Aerodynamic Surfaces:** The numbered surfaces taken in consideration in Handifly Race for examining impairment situations: hand-forearm, arm, belly, leg, tibia-foot. See in green on the following diagram:



2.5. **Eligible Impairments:** List of impairments extracted from the International Standard for Eligible Impairments of the International Paralympic Committee (IPC), used for determining the eligibility for the Handifly Race.

2.6. **Aerodynamic Motor Skill:** The overall skill that is analyzed in the Coefficient's Assignment which results from the following determinants that condition performance on a Handifly Race:

(A) Move: The ability to move in horizontal and vertical planes of the flight chamber which depends on the availability and mobilization of numbered surfaces 1, 2, 4 and 5.

(B) Posture: The ability to maintain a strong stable flight on the airflow which includes:

(B1) Symmetry: Depends on a globally balanced distribution between surfaces 1+2 (upper limbs) and 4+5 (lower limbs), both on the roll axis (left/right) and on the pitch axis (front/rear).

(B2) Anchoring: Depends on an overall penetrating shape of the body materialized by a surface n°3 rather arched than flat or hollow and the ability of this surface to deform according to the needs.

(C) Validation: The ability to touch the Contact Zone of Targets in order to validate a point which includes:

(C1) Surface: Depends on the ability to present at least one full and flat hand palm on the Target's Contact Zone.

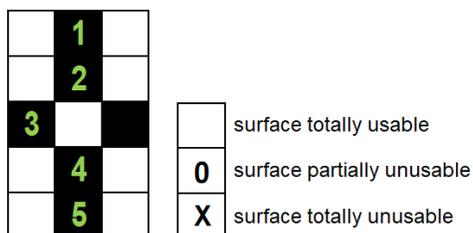
(C2) Distance: Depends on the overall mobility of the available upper limb used and its ability to bridge a distance to the Target's Contact Zone.

(C3) Accuracy: Depends on the overall mobility of the available upper limb used and its ability to aim the Target's Contact Zone without altered or parasitic movements.

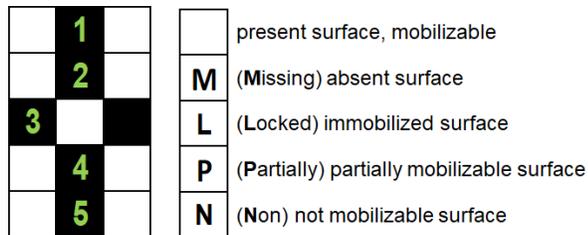
(C4) Options: Depends on the number of upper limbs available to touch the Target's Contact Zone.

(C5) Sensibility: Depends on the electronic sensitivity when touch-responsive systems are used.

- 2.7. **Basic Coefficient:** Provisional Coefficient assigned during step 1 of the Coefficient's Assignment.
- 2.8. **Increase:** Defined flat-rate amount which may be added to the Basic Assignment during step 2 of the Coefficient's Assignment when the use of one/or more Specific Equipment(s) contributes to the improvement of performance.
- 2.9. **Decrease:** Defined flat-rate amount which may be subtracted to the Basic Assignment during step 3 of the Coefficient's Assignment when the presence of one/or more specific pathology(s) contributes to the deterioration of performance.
- 2.10. **Final Coefficient:** Final Coefficient assigned during step 4 of the Coefficient's Assignment, which is used as Compensation Coefficient.
- 2.11. **Self-Analysis Diagram:** The diagram used by Handifly Race's applicants in order to declare their functional in-flight self-analysis of their Main Aerodynamic Surfaces (1 to 5). Symbols to be used to fill the cells of this diagram are:



- 2.12. **Individualized Diagram:** The diagram used by the Classification Board in order to inventory the available and mobilizable surfaces in flight (1 to 5) of Handifly Race's Flyers. Symbols to be used to fill the cells of this diagram are:



- 2.13. **Reference Diagrams:** Official list of indicative diagrams with pre-assigned Compensation Coefficients, established and updated by the Permanent Classification Board based over past competitions analysis, in order to define the fair coefficient difference between main types of surface situations.

3. EVALUATION ITEMS

- 3.1. The Evaluation Items to be submitted by competition's applicants are the following:
- 3.1.1. The official Declaration and Consent Form (see ANNEX 1) completed and signed which allows Flyers to declare their detailed medical situation, the nature of their Eligible Impairment(s) and to undertake to respect the Classification Rules.
 - 3.1.2. One or more photo /or video images showing their deficiencies outside from the flight chamber.
 - 3.1.3. One or more video images showing them in Flight in a wind tunnel and using their eventual Specific Equipment. These video images must show either Flights on the Handifly Race or at least demonstrations of ability to fly up, down and front and to contact the inner wall of the flight chamber.
 - 3.1.4. For First Category Events only, an official Medical Statement signed by a qualified medical doctor outlining in detail the medical situation of disabilities and their motor and sensory effects.
- 3.2. Competition's applicants who previously have already submitted Evaluation Items and been evaluated by a Classification Board and whose physical condition or use of eventual Specific Equipment has not changed since, are not requested to mandatory submit new Evaluation Items; these items

remain optional. However, if the previous Athlete Evaluation wasn't done for a First Category Event and that they apply for a First Category Event, applicants must mandatorily submit the item mentioned in 3.1.4.

4. ELIGIBILITY ASSESSMENT

The first phase of the Athlete Evaluation, carried out by Medical Doctor(s) of the Classification Board, is to determine the applicant's eligibility for competing on Handifly Race, based on the comparison of their disabilities with the following list of Eligible Impairments, at least one of which must be present and meet the minimum requirement. Only two eligibility outcomes are possible at the end of this phase: yes or no.

- 4.1. **Impaired Muscle Power:** Persons with Impaired Muscle Power have a Health Condition that either reduces or eliminates their ability to voluntarily contract their muscles in order to move or to generate force.

Examples include: spinal cord injury (complete or incomplete, tetra-or paraplegia or paraparesis), muscular dystrophy, post-polio syndrome and spina bifida.

At a minimum: One of the following aerodynamic surfaces should be affected by the lack of power: hand-forearm, arm, belly, leg, tibia-foot.

- 4.2. **Impaired Passive Range of Movement:** Persons with Impaired Passive Range of Movement have a restriction or a lack of passive movement in one or more joints.

Examples include: arthrogryposis and contracture resulting from chronic joint immobilization or trauma affecting a joint.

At a minimum: One of the following joints or joint areas should be affected by the lack of mobility: wrist, elbow, shoulder, spine, hip, knee, ankle.

- 4.3. **Limb Deficiency:** Persons with Limb Deficiency have total or partial absence of bones or joints as a consequence of trauma (*for example traumatic amputation*), illness (*for example amputation due to bone cancer*) or congenital limb deficiency (*for example dysmelic*).

At a minimum: The presence of a shoulder joint and the absence of a wrist joint or ankle joint are required.

4.4. **Leg Length Difference:** Persons with Leg Length Difference have a difference in the length of their legs as a result of a disturbance of limb growth, or as a result of trauma.

At a minimum: A difference of 8 centimeters or more is required.

4.5. **Short Stature:** Persons with Short Stature have a reduced length in the bones of the upper limbs, lower limbs and/or trunk.

Examples include: achondroplasia, growth hormone dysfunction, and osteogenesis imperfecta.

At a minimum: It must result from the reduced length of the bones mentioned, a general morphology of type not proportionate. Small persons with a proportionate morphology are not eligible.

4.6. **Hypertonia:** Persons with Hypertonia have an increase in muscle tension and a reduced ability of a muscle to stretch caused by damage to the central nervous system.

Examples include: cerebral palsy, traumatic brain injury and stroke.

4.7. **Ataxia:** Persons with Ataxia have uncoordinated movements caused by damage to the central nervous system.

Examples include: cerebral palsy, traumatic brain injury, stroke and multiple sclerosis.

4.8. **Athetosis:** Persons with Athetosis have continual slow involuntary movements.

Examples include: cerebral palsy, traumatic brain injury and stroke.

5. COEFFICIENT'S ASSIGNATION

When applicants are declared eligible for the Handifly Race, the second phase of the Athlete Evaluation, carried out by the Classification Board, is composed of four (4) consecutive steps.

5.1. **Step 1:** Consists first of going through all competitor's Evaluation Items, including their Self-Analysis Diagrams, in order to build their Individualized Diagram.

Then, these diagrams will be compared to official Reference Diagrams in order to assign Flyers their Basic Coefficient. When a situation does not allow

to refer exactly to one of these diagrams, it is still necessary to assign a Basic Coefficient in the most accurate way possible.

5.2. **Step 2:** Consists of eventually assigning Increases related to the numbered Main Aerodynamic Surfaces if some improvements observed are not already taken into account in the Basic Coefficient.

Maximum flat-rate amounts are added according to the following scale:

(A) move	(B1) symmetry	(B2) anchoring
0,03 1 0,03	0,02 1 0,02	1
0,03 2 0,03	0,02 2 0,02	2
3	3	3 0,08
0,03 4 0,03	0,02 4 0,02	4
0,03 5 0,03	0,02 5 0,02	5

5.3. **Step 3:** Consists of eventual assigning Decreases related to the numbered Main Aerodynamic Surfaces and/or Validation abilities if some deteriorations observed are not already taken into account in the Basic Coefficient.

Maximum flat-rate amounts are added according to the following scale:

(A) move	(B1) symmetry	(B2) anchoring	(C) validation
0,03 1 0,03	0,02 1 0,02	1	C1 0,16
0,03 2 0,03	0,02 2 0,02	2	C2 0,16
3	3	3 0,08	C3 0,16
0,03 4 0,03	0,02 4 0,02	4	C4 0,02
0,03 5 0,03	0,02 5 0,02	5	C5 0,1

Potential C5 Decreases can only be assigned as part of a revision process initiated by Classification Board's representatives depending on the sensibility of the sensor when touch-responsive systems are used. The decided lump-sum value is added in the same way to all competitors concerned by a type C Validation Decrease.

5.4. **Step 4:** Consists of adding any Increases and/or subtracting any Decreases to the Basic Coefficient in order to calculate the Final Coefficient assigned.

5.5. **Individual Evaluation Sheets:** Any completed Athlete Evaluation must be archived by using the following model:

Only fill in the fields in yellow (when necessary)

spinal	NAME Surname		eligibility						
C1	COUNTRY		muscle power	short stature					
C2	disabilities description		passive range of movement	hypertonia					
C3			limb deficiency	ataxia					
C4			leg length difference	athetosis					
C5			medical statement						
C6	self-analysis	board analysis							
C7	<input type="checkbox"/> 1								
T1	<input type="checkbox"/> 2								
T2	<input type="checkbox"/> 3								
T3	<input type="checkbox"/> 4								
T4	<input type="checkbox"/> 5	<input type="checkbox"/> wheelchair	<input type="checkbox"/> walker	<input type="checkbox"/> disconnected leg orthoses	<input type="checkbox"/> arm and/or leg prosthesis				
T5	<input type="checkbox"/> surface partially unusable	<input type="checkbox"/> no visible consequences - can use all surfaces		<input type="checkbox"/> connected leg orthoses	<input type="checkbox"/> other				
T6	<input checked="" type="checkbox"/> surface totally unusable	<input type="checkbox"/> difficulty in assessing/measuring consequences		<input type="checkbox"/> leg-belly connection	<input type="checkbox"/> other				
T7									
T8	STEP 1 BASIC	STEP 2 INCREASES +		STEP 3 DECREASES -		STEP 4 FINAL			
T9	individualized	(A) move	(B1) symmetry	(B2) anchoring	(A) move	(B1) symmetry	(B2) anchoring	(C) validation	total
T10	<input type="checkbox"/> 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C1	<input type="checkbox"/>
T11	<input type="checkbox"/> 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C2	<input type="checkbox"/>
T12	<input type="checkbox"/> 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C3	<input type="checkbox"/>
L1	<input type="checkbox"/> 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C4	<input type="checkbox"/>
L2	<input type="checkbox"/> 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C5	<input type="checkbox"/>
L3		0	0	0	0	0	0	0	0
L4	additional comments for/from board representant(s) on site								
L5									
no pb									

6. CLASSIFICATION BOARDS

All Boards' decisions are taken by a majority of their members.

- 6.1. **Permanent Classification Board's missions:** Headed by a Chairman appointed by the ISC Skydiving for Disabled Committee, the Permanent Classification Board is responsible for:
 - 6.1.1. Coordinating and managing all items related with classification for the Handifly Race.
 - 6.1.2. Training the applicants, proposed by their NAC, wishing to undergo training as Expert Classifier Students.
 - 6.1.3. Organizing the evaluation for becoming Expert Classifier, and then proposing, for those who have succeeded, their accreditation by the ISC Skydiving for Disabled Committee on the next Annual List of Expert Classifiers.
 - 6.1.4. Appointing Classification Boards for each Handifly Race scheduled by selecting individually Expert Classifiers from the Annual List.

- 6.1.5. Receiving, analyzing, archiving and transmitting to appointed Classification Boards all Classification Items submitted by Athlete Evaluation's applicants.
- 6.1.6. Receiving, analyzing and archiving all Individual Evaluation Sheets produced by Classification Boards.
- 6.1.7. Establishing and updating Reference Diagrams whenever the Permanent Classification Board deems it useful.
- 6.1.8. Preparing an annual report to the ISC Skydiving for Disabled Committee that includes a proposal list of individual Expert Classifiers to be individually accredited as the Annual List by the ISC Skydiving for Disabled Committee and from whom the ISC Skydiving for Disabled Committee appoints the members and Chairman of the following year's Permanent Classification Board.
- 6.2. **Classification Board's missions:** Headed by a Chairman appointed by the ISC Permanent Classification Board, Classification Boards appointed for each competition are responsible for:
 - 6.2.1. Examining the Classification Items provided and carrying out the Athlete Evaluation of the competition's applicants by all possible means, including video-conferencing.
 - 6.2.2. Set up a table presenting the list of Flyers in alphabetical order with their Compensation Coefficient assigned and transmitting it to the competition's organizer for publication before the Athlete Evaluation's Deadline.
 - 6.2.3. Designating from within the Classification Board's representative and transmitting its identity to the competition's organizer as soon as possible before the table transmission.
 - 6.2.4. Transmitting all Individual Evaluation Sheets produced to the Permanent Classification Board.

ANNEX 1

DECLARATION and CONSENT FORM

Check and fill in the fields in yellow

1.1 IDENTITY

NAME, Surname

Date of birth:

___/___/___

Gender: Male Female

1.2 MEDICAL INFORMATION

Eligible Impairment(s) (tick one or more items)	Name medical diagnosis relevant to impairment type (tick or add)
<input type="checkbox"/> Impaired Muscle Power	<input type="checkbox"/> Spinal Cord Injury <input type="checkbox"/> Muscular Dystrophy <input type="checkbox"/> Spina Bifida <input type="checkbox"/> Poliomyelitis <input type="checkbox"/> Multiple Sclerosis <input type="checkbox"/> Other _____
<input type="checkbox"/> Impaired Passive Range of Movement	<input type="checkbox"/> Arthrogryposis <input type="checkbox"/> Joint Contractures <input type="checkbox"/> Trauma <input type="checkbox"/> Other _____
<input type="checkbox"/> Limb Deficiency	<input type="checkbox"/> Dysmelic <input type="checkbox"/> Traumatic Amputation <input type="checkbox"/> Bone Cancer <input type="checkbox"/> Other _____

<input type="checkbox"/> Leg Length Difference	<input type="checkbox"/> Trauma <input type="checkbox"/> Dysmelic <input type="checkbox"/> Other <hr/>
<input type="checkbox"/> Short Stature	<input type="checkbox"/> Achondroplasia <input type="checkbox"/> Osteogenesis Imperfecta <input type="checkbox"/> Growth Hormone Dysfunction <input type="checkbox"/> Other <hr/>
<input type="checkbox"/> Hypertonia <input type="checkbox"/> Ataxia <input type="checkbox"/> Athetosis	<input type="checkbox"/> Cerebral Palsy <input type="checkbox"/> Traumatic brain injury <input type="checkbox"/> Multiple Sclerosis <input type="checkbox"/> Stroke <input type="checkbox"/> Other <hr/>

1.3 MEDICAL HISTORY

Flyer's condition: Stable Progressive Fluctuating Permanent

Year of onset: _____ Congenital

Past treatments:

Current and/or future treatments:

In case of spinal cord injury, indicate the number of the vertebrae(s) affected and accurately describe the motor and sensory consequences of these lesions:

Additional details on medical diagnosis (mandatory):

Functional Self-Analysis in Flight of Main Aerodynamic Surfaces (using the diagram, fill in the yellow boxes below):

1	
2	
3	
4	
5	

	1
	2
	3
	4
	5

	surface totally usable
0	surface partially unusable
X	surface totally unusable

Possible additional comment:

1.4 EVALUATION CONSENT

I agree to undergo the Athlete Evaluation detailed in the Handifly Race Competition Rules and the Handifly Race Classification Rules carried out by a Classification Board designated by the ISC Permanent Classification Board of the ISC Skydiving for Disabled Committee. I understand that this evaluation may require me to participate

