

Methodology for Establishing World Standards for the New Bodyweight Categories

Background

Following the introduction of new bodyweight (BW) categories by the International Weightlifting Federation (IWF), it became necessary to define corresponding World Standards for all lifts — Snatch, Clean & Jerk, and Total — across all gender and age groups. To ensure consistency and fairness, the same methodology and formula have been applied to every BW category, ages groups and genders.

These World Standards are not arbitrary; they are based on the current actual world records from the previous (now old) BW categories. This approach ensures that the new standards remain credible, grounded in elite performance, and provide an appropriate level of challenge moving forward.

Use of Old BW Category Records and Polynomial Curve Fitting

We used the actual world records from the previous BW categories — not historical averages or estimates — but the most recent, officially recognized record performances at the time of transition.

- A2–A11: Old BW category values (in kg)
- B2–B11: Corresponding actual world records (in kg)

These data points were plotted to create a performance curve illustrating the relationship between total lifted weight and body mass.

Recognizing the non-linear nature of this relationship, we fitted a second-degree polynomial regression to the data:

$$\text{Standard} = f(\text{BW}) = a \cdot x^2 + b \cdot x + c$$

This curve serves as the mathematical model to estimate equivalent record-level performances at any given BW category.

Application to New BW Categories

With the function derived, we applied the new IWF BW categories (e.g. D2–D9) as inputs into this polynomial model. This yielded performance outputs for each category that are in line with the pattern established by the actual records in the old BW categories structure.

These calculated values represent the theoretical world standard for each new BW category.

97% Adjustment for Competitive Integrity

To prevent the new standards from being:

- too high (remaining unbroken for many years), or
- too low (easily surpassed in early events),

we applied a uniform downward adjustment of 3% to the calculated values. This produced the final standards using the formula:

$$\text{Final World Standard} = 0.97 \cdot f(\text{New BW})$$

The 97% level was chosen as a balanced value — high enough to preserve record prestige, but realistic enough to encourage natural progression.

Consistent Methodology Across All Lifts and Groups

This same method — polynomial modeling based on actual records, followed by a 97% adjustment — has been applied consistently to calculate standards for:

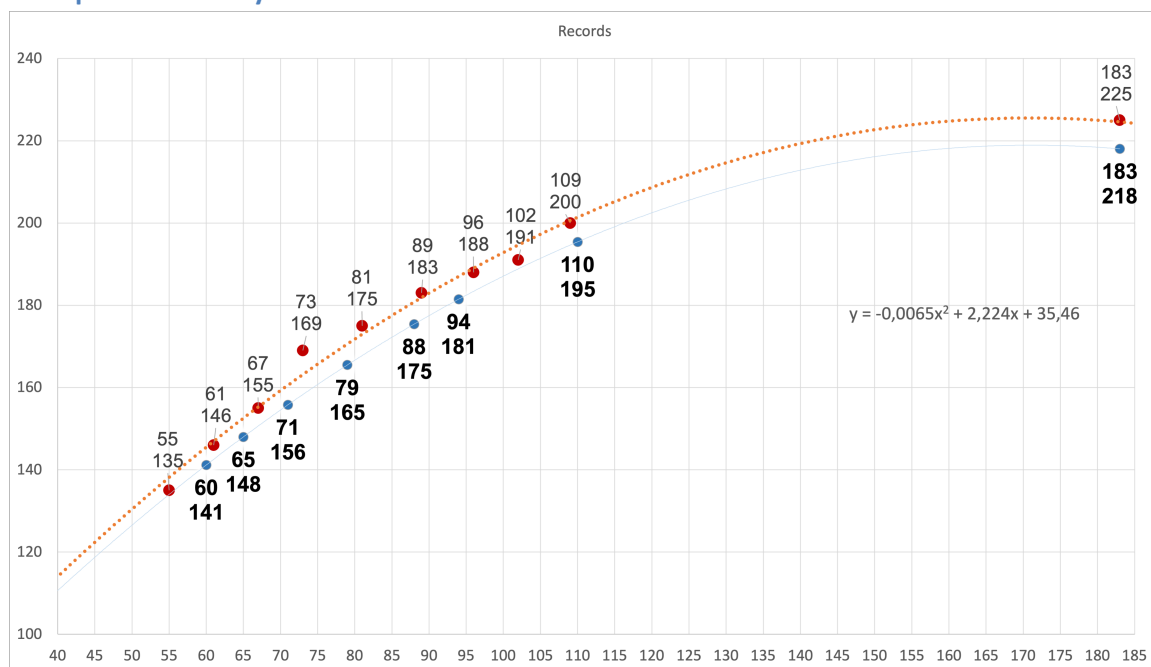
- Snatch,
- Clean & Jerk,
- Total,

for both Men and Women, across Senior, Junior, and Youth categories, in all BW categories.

Conclusion

The new World Standards are built on a rigorous and fair methodology. By using actual old BW category records as the basis and applying a mathematical model with a -3% adjustment, the standards maintain the sport's integrity while supporting future growth. This unified approach ensures consistency across all BW categories and lifts.

Example Chart – Polynomial Fit Based on Old World Records



	A	B	C	D	E
1	Old BW Categories	World Records		New BW Categories	New Standards
2	55 Kg	135 Kg		60 Kg	141 Kg
3	61 Kg	146 Kg		65 Kg	148 Kg
4	67 Kg	155 Kg		71 Kg	156 Kg
5	73 Kg	169 Kg		79 Kg	165 Kg
6	81 Kg	175 Kg		88 Kg	175 Kg
7	89 Kg	183 Kg		94 Kg	181 Kg
8	96 Kg	188 Kg		110 Kg	195 Kg
9	102 Kg	191 Kg		*183 Kg	218 Kg
10	109 Kg	200 Kg			
11	*183 Kg	225 Kg			

* To ensure accuracy, the athlete's actual bodyweight at the time the World Record was set is used instead of the standard +109 kg weight category.

Calculated World Standards for Men BW Categories:

World Standards								
Men Senior			Men Junior			Men Youth		
60kg	Snatch	141kg	60kg	Snatch	131kg	56kg	Snatch	113kg
	Cl & Jerk	172kg		Cl & Jerk	163kg		Cl & Jerk	141kg
	Total	307kg		Total	290kg		Total	252kg
65kg	Snatch	148kg	65kg	Snatch	139kg	60kg	Snatch	121kg
	Cl & Jerk	180kg		Cl & Jerk	173kg		Cl & Jerk	149kg
	Total	322kg		Total	308kg		Total	267kg
71kg	Snatch	156kg	71kg	Snatch	148kg	65kg	Snatch	130kg
	Cl & Jerk	190kg		Cl & Jerk	184kg		Cl & Jerk	158kg
	Total	340kg		Total	328kg		Total	285kg
79kg	Snatch	165kg	79kg	Snatch	160kg	71kg	Snatch	140kg
	Cl & Jerk	202kg		Cl & Jerk	196kg		Cl & Jerk	168kg
	Total	361kg		Total	351kg		Total	305kg
88kg	Snatch	175kg	88kg	Snatch	171kg	79kg	Snatch	150kg
	Cl & Jerk	214kg		Cl & Jerk	209kg		Cl & Jerk	181kg
	Total	383kg		Total	374kg		Total	327kg
94kg	Snatch	181kg	94kg	Snatch	177kg	88kg	Snatch	160kg
	Cl & Jerk	221kg		Cl & Jerk	216kg		Cl & Jerk	192kg
	Total	396kg		Total	387kg		Total	349kg
110kg	Snatch	195kg	110kg	Snatch	189kg	94kg	Snatch	164kg
	Cl & Jerk	237kg		Cl & Jerk	229kg		Cl & Jerk	199kg
	Total	427kg		Total	414kg		Total	361kg
+110kg	Snatch	218kg	+110kg	Snatch	197kg	+94kg	Snatch	169kg
	Cl & Jerk	260kg		Cl & Jerk	235kg		Cl & Jerk	218kg
	Total	477kg		Total	431kg		Total	382kg

Calculated World Standards for Women BW Categories:

World Standards								
Women Senior			Women Junior			Women Youth		
48kg	Snatch	93kg	48kg	Snatch	87kg	44kg	Snatch	72kg
	Cl & Jerk	119kg		Cl & Jerk	114kg		Cl & Jerk	90kg
	Total	210kg		Total	201kg		Total	161kg
53kg	Snatch	99kg	53kg	Snatch	93kg	48kg	Snatch	78kg
	Cl & Jerk	126kg		Cl & Jerk	120kg		Cl & Jerk	97kg
	Total	223kg		Total	212kg		Total	173kg
58kg	Snatch	105kg	58kg	Snatch	98kg	53kg	Snatch	85kg
	Cl & Jerk	132kg		Cl & Jerk	125kg		Cl & Jerk	105kg
	Total	235kg		Total	222kg		Total	188kg
63kg	Snatch	110kg	63kg	Snatch	103kg	58kg	Snatch	90kg
	Cl & Jerk	139kg		Cl & Jerk	131kg		Cl & Jerk	112kg
	Total	246kg		Total	232kg		Total	201kg
69kg	Snatch	116kg	69kg	Snatch	109kg	63kg	Snatch	96kg
	Cl & Jerk	145kg		Cl & Jerk	137kg		Cl & Jerk	118kg
	Total	259kg		Total	243kg		Total	213kg
77kg	Snatch	122kg	77kg	Snatch	116kg	69kg	Snatch	101kg
	Cl & Jerk	154kg		Cl & Jerk	144kg		Cl & Jerk	125kg
	Total	274kg		Total	257kg		Total	225kg
86kg	Snatch	129kg	86kg	Snatch	123kg	77kg	Snatch	106kg
	Cl & Jerk	162kg		Cl & Jerk	152kg		Cl & Jerk	133kg
	Total	289kg		Total	271kg		Total	237kg
+86kg	Snatch	144kg	+86kg	Snatch	143kg	+77kg	Snatch	105kg
	Cl & Jerk	181kg		Cl & Jerk	180kg		Cl & Jerk	140kg
	Total	325kg		Total	320kg		Total	244kg