



Ratings Bureau

Rating Regulations

Effective as of 01 July 2020

INTRODUCTION

- 1 Following are the Rules and Regulations for the calculation and updating of Chess South African ratings and comes into force on 01 July 2020.
- 2 In this document, any gender reference to “him”, “his”, etc. also includes the female equivalent.
- 3 These regulations are the only and official regulations which determine the manner in which South African ratings are managed and calculated and these Regulations overwrite/supersede any regulations existing elsewhere in whatever/whichever form and/or format.

DEFINITIONS AND ABBREVIATIONS

4 Definitions

4.1 Event

A competition where players participate in one or more sections, is governed by the official FIDE Laws of Chess, and is Chess SA and/or FIDE rated.

4.2 Section

A sub-group of an event.

4.3 Province

One of the nine (9) provinces of the Republic of South Africa.

4.4 Region

An area within a province and which is a member of that Provincial Body, functions independently from other regions within the same province and which has been constituted by Chess South Africa.

5 Abbreviations

- | | | |
|-----|-------|---------------------------------------|
| 5.1 | CSA: | Chess South Africa |
| 5.2 | AOC: | Arbiters and Organisers Commission |
| 5.3 | FIDE: | Federation Internationale des Echecs. |
| 5.4 | RSA: | Republic of South Africa |
| 5.5 | OTB: | Over-the-board |
| 5.6 | OL: | Online |
| 5.7 | HYB: | Hybrid |

ARBITERS AT TOURNAMENTS

- 6 During each and every round of an event, a qualified arbiter (as recognised and approved by the AOC and/or FIDE) must be present (in an appointed capacity) for the duration of the round.
- 7 An RSA arbiter officiating at an event (regardless of where the event is held) must have paid his AOC membership fees for the year in which the event is held and must have done so before the start of the event, otherwise the event will not be rated and not count towards the arbiter's activity.
- 8 Excluding club events, no arbiter (in an appointed capacity) may participate in the event, not even as a filler, otherwise the event will not be rated and not count towards the arbiter's activity.

EVENTS TO BE RATED

- 9 Events played within the borders of RSA.
- 10 **Events played outside the borders of RSA:**
Must be FIDE rated. It will be the responsibility of the player (or team manager) who participated in such an event to submit his results of the event (preferably a link to a website where his results can be obtained and verified) to the Ratings Bureau, no later than 30 calendar days after the event has ended otherwise the event will not be accepted for rating and will not count towards the updating of his rating, activity and calculation of performance rating for Grand Prix Points. Once details of the event have been submitted and processed, it may not be unrated upon request by either a player, team manager or anyone else.
- 11 The Ratings Committee reserves the right to refuse to rate an event (or one or more sections of that event) regardless if the event was played within/outside the borders of RSA. In the event of refusal to rate an event (or section/s) the Ratings Committee will provide reasons why the event (or section/s) is/are not to be rated. The aggrieved party may appeal this decision (lodge an appeal with CSA) but no later than 21 calendar days after receiving notification of refusal.
- 12 The Ratings Committee reserves the right to rate any event (regardless of where it was played) that was not submitted for rating purposes and/or registered to be rated.

EVENT DETAILS REQUIRED

The following information must be indicated in each tournament file. Files without these details will not be processed and sent back to the relevant region for updating the files and submitting them again.

13 Event/Section details

- 13.1 Complete event name, including section name (if applicable).
- 13.2 Start and end dates of the event/section.
- 13.3 Date on which each round was played.
- 13.4 Code of the region physically hosting the event.
- 13.5 Name, surname and Chess SA id of the Chief Organiser (if a person) otherwise the name of the host region/province and contact details of the President, General Secretary or Ratings Officer.

14 Player details

- 14.1 Over-the-board (OTB)
 - 14.1.1 Surname, Initials and First name (no nicknames).
 - 14.1.2 Date of birth (in the format yyyy/mm/dd).
 - 14.1.3 Gender (M or F).
 - 14.1.4 CSA id and FIDE id (where a player exists in the ratings database). FIDE id will be required for all FIDE rated events.
 - 14.1.5 Code of the region the player is a member of. If no code is provided, the player will be assigned the code of the host region.
- 14.2 Online (OL)
 - 14.2.1 Existing players: CSA id and platform handle.
 - 14.2.2 New players: All information as in 14.1 above.

15 Arbiter details

- 15.1 Name and surname (no nicknames).
- 15.2 Chess SA id number and/or FIDE id number (FIDE id required if the event is FIDE rated).
- 15.3 Current title.
- 15.4 The names of the arbiters must be indicated in order of appointed position. The 1st name must be the Chief Arbiter, the 2nd and 3rd names the Deputy Chief Arbiters, then all other arbiters.

AGE GROUPS

- 16 A player's age (and age group) is calculated by subtracting his year of birth (ignoring month-in and date-on) from the year in which the event (CSA and/or FIDE rated) will be hosted.

NUMBER OF PLAYERS AND ROUNDS PER SECTION

- 17 A section of an event will only be rated if:
- 17.1 Individual Swiss-, Individual Single Round-Robin- and Team- sections (Swiss and Round-Robin):
There are at least 6 players participating **AND** at least 5 rounds are completed.
 - 17.2 Individual Double Round-Robin sections:
There are at least 4 players participating **AND** at least 6 rounds are completed.
 - 17.3 Team Scheveningen sections:
There are at least 5 players per team participating **AND** at least 5 rounds are completed.
 - 17.4 Disabled (e.g. Braille) events (or sections) only (regardless of format):
There are at least 6 players participating **AND** at least 4 rounds are completed.
- 18 Organisers and arbiters must always try to ensure that all points (above) are adhered to, even if it means merging age and/or gender groups, etc. However, if this is/was not possible (e.g. there were only 5 players in the Section due to a player withdrawing before the start of the tournament), the Chief Organiser and/or Chief Arbiter must contact the Ratings Bureau no later than 1 (ONE) calendar day after the event has ended asking permission if the affected section(s) can be rated. The sections must still have at least 5 rounds.

TIME CONTROL

- 19 The time control for a game is defined as (per player) the base time (original time on the clock) plus 60 times any increment per move.
- 20 The type of games is (where each player has the following):
- 20.1 Standard: At least 60 minutes.
 - 20.2 Rapid: More than 10 minutes but less than 60 minutes.
 - 20.3 Blitz: From 5 to 10 minutes (5 and 10 inclusive).

- 21 The time control for both players must be the same.
- 22 Where a section has multiple time controls, the fastest of these will determine the type of game and rating to be updated.
- 23 **Games played at a rate faster than 5 minutes (including increments) will not be rated.**

PLATFORMS

- 24 The following “ways” will define the type of rating to be updated:
 - 24.1 Over-the-board (OTB):
Events where ALL players participate on actual chess boards.
 - 24.2 Online (OL):
Events where ALL players participate via an online platform (e.g. LiChess and Chess.com).
 - 24.3 Hybrid (HYB):
Regardless if the event is OTB or OL.

TYPE OF RATINGS

- 25 There are the following 4 ratings:
 - 25.1 Main (M): Updated regardless of the time control.
 - 25.2 Standard (S): Updated only if the game was a Standard game.
 - 25.3 Rapid (R): Updated only if the game was a Rapid game.
 - 25.4 Blitz (B): Updated only if the game was a Blitz game.
- 26 A player will have 4 ratings (as in Point 25 above) for each of the following:
 - 26.1 Over-the-board (OTB)
 - 26.2 Online (OL)
 - 26.3 Hybrid (HYB)
- 27 Effectively a player has 12 ratings.
- 28 The official format for all ratings will be a real number saved on the database to sixteen (16) decimal places but displayed online to one (1) decimal place. Only for

exporting the ratings to the downloadable ratings databases (for pairing purposes) will they be rounded off to the nearest integer.

K-FACTOR (K)

29 K is a number which determines by how much a player's rating will change. The greater the value of K, the greater the change, and vice versa.

30 For Standard, Rapid and Blitz ratings, the following values are used:

30.1 Standard: K = 24

30.2 Rapid: K = 30

30.3 Blitz: K = 40

31 For Main ratings, the following formula is used to determine the value of K.

$$K = \frac{24[(0.713043 \times t) + 14.43478]}{100}$$

where

t = time per player (as in Point 20 above).

t may not be more than 120 or less than 5. If it is (based on the time control as defined in Point 20 above), change it to 120 or 5.

However, the K-factor for Main Online ratings is K=20.

PERFORMANCE RATING

32 The following formula is used:

$$P = A_{or} + \left[850 \times \left(\frac{s}{n} - 0.5 \right) \right]$$

where

P = performance rating

A_{or} = average opponent rating

s = total score (excluding default games and byes)

n = number of games played (excluding default games and byes)

33 A performance is calculated for each of the rating types (OTB, OL & HYB) and using the relevant opponent rating types.

34 The part between the block brackets [...] is also known as the "performance gain/loss" (D_p).

EXPECTED SCORE (W_e)

- 35 A player's W_e for a game is based on the difference in rating between his own rating and that of his opponent, and also taking into account who played with which colour.
- 36 If a player is unrated, a pre-rating is used (see below in this document).
- 37 The formula for W_e is:

$$W_{ew} = 0.541767 + [0.001164 \times (R_W - R_B)]$$

where

R_W = rating of the player playing with the white pieces

R_B = rating of the player playing with the black pieces

W_{ew} = Expected score of the player playing white. W_{eb} (expected score of the player playing black) is simply $W_{eb} = 1 - W_{ew}$.

- 38 The lower and upper bounds for $R_W - R_B$ are [-460,390]. Meaning, if the rating difference is less than -460 or greater than +390, the difference is adjusted accordingly.

WEIGHT PERFORMANCE (W_p)

- 39 For each rating type, a player's W_p is calculated by weighing his last 5 tournaments played (taken in chronological order with the most recent tournament listed first).
- 40 The following formula is used:

$$W_p = \frac{\sum_{i=1}^5 (P_i \times R_i \times A \times i)}{15}$$

where

i = 1=oldest, ..., 5=most recent

P = tournament performance

R = rating type

A = Age factor based on 2920 days (8 years) and ignoring leap years and is calculated as **$A = (2920 - d) / 2920$** where d is the age of the tournament (in days: date-when-tournament-is-rated minus end-date-of-the-tournament). Any tournament older than 2920 days are ignored.

- 41 When calculating the W_p for Main ratings, R_i is used with the following values:

41.1 Standard: 1.00

41.2 Rapid: 0.95

41.3 Blitz: 0.90

- 42 When calculating the W_p for Standard, Rapid or Blitz ratings, R_i is ignored (not used in the formula). Or you can include it but set $R_i = 1$.
- 43 Weighed performances are calculated after each event is rated.
- 44 If a player's W_p is higher than his current rating, his current rating will be adjusted with immediate effect but up to a maximum of 500 rating points.

RATING FLOOR

- 45 A player's rating may not drop below 100. If it does, set it equal to 100.
- 46 A player's tournament performance rating may not be less than 100. If it is, set it equal to 100.

80%-RULE

- 47 A player will only gain rating points and a performance rating (used for Grand Prix calculations) if he has played at least 80% (rounded upwards) of the scheduled number of tournament rounds. Only games played with the white/black pieces are included.
Meaning, if the player's rating change is positive, he will only receive these points if he has played at least 80% of the total number of rounds, otherwise not.
- 48 If a player's rating change is negative, he will be rated, regardless of the number of games/rounds he has played.
- 49 The 80% rule is not applicable to Team events, when a player will be rated regardless of the number of games played. However, the player's tournament performance will only be applicable for Grand Prix Points if he has played at least 50% (rounded upward) of the total number of scheduled rounds.
- 50 Rounds where a player won by forfeit (opponent did not arrive) or received a bye (as determined by the pairing software), will not be rated but taken into account for activity purposes.

PENALTIES

- 51 Excluding round 1, any player who forfeits a game (did not inform the Chief Organiser and/or Chief Arbiter that he will not be participating in that round, including players arriving after the forfeit time for a round), will have 20 rating points deducted for each such round/game.

- 52 Any player who withdraws from the event without informing the Chief Organiser and/or Chief Arbiter in writing/verbally and without a good reason (according to the Chief Organiser and/or Chief Arbiter) will have 20 rating points deducted for that round and each subsequent round, even though the player is not participating in the event anymore.

ACTIVITY

- 53 Only the following games will count towards a player's activity:
- 53.1 Games played with the white/black pieces (regardless of the opponent's rating).
 - 53.2 Bye (as determined by the pairing software).
 - 53.3 Forfeit win (opponent did not arrive for the game).

FIRST OFFICIAL RATING FOR AN UNRATED PLAYER

- 54 For each rating type, a player will receive his first official rating once he has played at least 10 games.
- 55 All games, regardless if the opponent is rated or not, will count towards the calculation of his rating.
- 56 His initial rating will be equal to his performance rating achieved over these 10+ games.

GAMES VS. UNRATED OPPONENTS

- 57 All games played against unrated opponents will count towards updating ratings and calculation of performance ratings.
- 58 An unrated player will be assigned a pre-rating based on his age. This pre-rating will then be used for all further calculations.
- 59 The following pre-ratings are used. Female ratings are indicated in brackets:
- 59.1 U6: 400 (200)
 - 59.2 U8: 500 (300)
 - 59.3 U10: 600 (400)
 - 59.4 U12: 700 (500)
 - 59.5 U14: 800 (600)
 - 59.6 U16: 900 (700)

- 59.7 U18: 1000 (800)
- 59.8 U20: 1100 (900)
- 59.9 Adult: 1200 (1000)

ACCEPTANCE OF EVENT FILES FOR RATING

- 60 Each region must have one appointed Regional Administrator who will be tasked with the following. Only events complying with the points below will be accepted for the updating of ratings and calculation of performances (for Junior and Senior Grand Prix Points). When uploading a tournament file, the Region acknowledges that all information indicated in the file is 100% correct.
- 61 Each section of an event must be registered via the Chess SA website at least the following number of days before the start of the event.
 - 61.1 CSA rated only: At least 3 days before the start of the event.
 - 61.2 FIDE rated: 30 days for norm events and 7 days for non-norm events. Please contact the CSA Ratings Bureau for more details.
- 62 Once the event has finished, the event files must be uploaded to the CSA website within 14 calendar days after the event has ended otherwise the event will not be rated. Only event files submitted by Regional Administrators will be accepted. Events that are submitted late distort the accuracy of the rating system especially if they are submitted in a latter month to the month in which the event was held, as the selection process of players (updating of ratings and Grand Prix points) are heavily reliant on the most recent information. This is extremely unfair towards players and everyone else involved.

CHANGES MADE TO EVENTS ALREADY RATED

- 63 Making changes (e.g. wrong results were originally captured, etc.) to a section already rated necessitates un-rating and rerating the file. It is not a problem if the file is still to be incorporated in the next rating list as it merely involves deleting existing records. However, it is problematic if the file has already been incorporated into a rating list.
- 64 **No changes will be made (e.g. correcting player results, removing penalty rating points, etc.) once a section has been incorporated into a new rating list. It is the responsibility of the Chief Arbiter, Chief Organiser and Regional Administrator to ensure that all data is 100% correct before the files are submitted for rating.** However, the Ratings Bureau reserves the right to un-rate and rerate such sections

and will not be held responsible for any negative effects this may have on a player's selection (rating and/or Grand Prix points).

WHEN NEW RATINGS ARE CALCULATED

- 65 An unrated player will be awarded an official rating once he has played the required minimum 10+ games. This rating will be applicable with immediate effect, even if achieved during the month and before the next rating list is published.
- 66 A player's weight performances will be calculated after each event that is rated and is applicable with immediate effect, even if calculated during the month and before the next rating list is published. Any rating changes (based on events already rated in the same month) will affect this new rating.
- 67 A player's new rating will be calculated by adding the sum of all his rating changes (based on events played within the month) to his current rating.

PLAYERS WINNING A SECTION OF AN EVENT

- 68 A player ending in 1st position (clear or shared) may not lose rating points **provided he has played 100% of the total number of rounds and none of the games involved forfeit wins or a bye (meaning the player has played each and every round with the white/black pieces)**. If his rating change is negative, the change will be set equal to 0. **However, this does not apply to any penalties the player may have received.**
- 69 **This rule is not applicable to team events.**

EXAMPLE: CALCULATING THE K-FACTOR FOR AN EVENT

The following table indicates various time controls and the K-factor obtained when using the K-factor formula.

Time control (per player)	Time	K
3 minutes + 2s seconds increment	5	4.3
15 minutes (no increments)	15	6.0
45 minutes + 15 seconds increment	60	13.7
90 minutes (no increment)	90	18.9
90 minutes + 30 seconds increment	120	24.0
120 minutes (no increment)	120	24.0
90 minutes for 40 moves + 30 minutes to finish with 30 seconds increment per move.	120	24.0

EXAMPLE: PERFORMANCE RATING

Example 1:

A player scores 8.5 from 11 games. His average opponent rating is 1500.

$$P=A_{Or} + \left[850 \times \left(\frac{S}{n} - 0.5 \right) \right] = 1500 + \left[850 \times \left(\frac{8.5}{11} - 0.5 \right) \right] = 1500 + 231.8 = 1731.8$$

Example 2:

A player scores 0 from 5 games. His average opponent rating is 1500.

$$P=A_{Or} + \left[850 \times \left(\frac{S}{n} - 0.5 \right) \right] = 1500 + \left[850 \times \left(\frac{0}{5} - 0.5 \right) \right] = 1500 - 425.0 = 1075$$

EXAMPLE: EXPECTED SCORE

Example 1:

Player A (rated 1500) playing with the white pieces.

Player B (rated 1600) playing with the black pieces.

$$\text{Expected score for Player A: } We = 0.541767 + [0.001164 \times (1500 - 1600)] = 0.43$$

$$\text{Expected score for Player B: } We = 1 - 0.43 = 0.57$$

Example 2:

Player A (rated 1600) playing with the white pieces.

Player B (rated 1500) playing with the black pieces.

$$\text{Expected score for Player A: } We = 0.541767 + [0.001164 \times (1600 - 1500)] = 0.66$$

$$\text{Expected score for Player B: } We = 1 - 0.66 = 0.34$$

EXAMPLE: WEIGHT PERFORMANCE

Following is a table of a player's tournaments with the most recent event listed first.

#	Performance	Type	Platform	Weight (Main)
1	1400	Standard	OTB	1.00
2	1450	Rapid	OL	0.95
3	1500	Blitz	OL	0.90
4	1550	Standard	OL	1.00
5	1600	Rapid	OL	0.95
6	1420	Blitz	OTB	0.90
7	1530	Standard	OTB	1.00
8	1640	Rapid	OL	0.95
9	1300	Rapid	OL	0.95
10	1480	Rapid	OL	0.95

Weight performance (OTB)

He has only played 3 OTB events and therefore the Weight performance cannot be calculated for either Main, Standard, Rapid or Blitz ratings.

Weight performance (OL)

He has played 7 OL events (1xStandard, 5xRapid, 0xBlitz). We can now calculate a Weight performance for his Main OL rating as well as his Rapid OL rating. We cannot calculate a Weight performance for either Standard or Blitz as he has not played enough OL events of the required type.

Weight performance (Main OL)

Use his first 5 OL events, regardless of the time control. Take the weight into account.

$$\begin{aligned} W_p &= [(1450 \times 0.95 \times 5) + (1500 \times 0.90 \times 4) + (1500 \times 1.00 \times 3) + (1600 \times 0.95 \times 2) + (1640 \times 0.95 \times 1)] / 15 \\ &= [6887.5 + 5400 + 4500 + 3040 + 1558] / 15 \\ &= 21385.5 / 15 \\ &= 1425.7 \end{aligned}$$

So, if the player's Main OL rating was between 925.7 and 1425.7, his rating will be adjusted to 1425.7. However, if his rating was 925.7 or lower (500 or more ratings points lower than W_p) he would only gain 500 rating points. E.g. if he was rated 700 his new rating would be $700 + 500 = 1200$.

Weight performance (Rapid OL)

Use his first 5 OL Rapid events. Ignore weight.

$$\begin{aligned} W_p &= [(1450 \times 5) + (1600 \times 4) + (1640 \times 3) + (1300 \times 2) + (1480 \times 1)] / 15 \\ &= [7250 + 6400 + 4920 + 2600 + 1480] / 15 \\ &= 22650 \\ &= 1510 \end{aligned}$$

So, if the player's Rapid OL rating was between 1010 and 1510 his rating would be adjusted to 1510. However, if his rating was 1010 or lower, he would only gain 500 rating points.

EXAMPLE: CALCULATE THE FIRST RATING OF AN UNRATED PLAYERS

An unrated player has participated in the following two tournaments

Round	Result	Opp rating
1	1	1300
2	1	1200
3	0.5	1250
4	1	1450
5	0	1400

Round	Result	Opp rating
1	0.5	1300
2	0	1250
3		Did not play
4	1	1400
5	0.5	1350

Player's statistics:

Total games: 9
Total Score: 5.5
Percentage: $5.5/9 = 0.61$
Average opponent rating: 1322.2

$$\begin{aligned} \text{Performance} &= 1322.2 + [850 \times (0.61 - 0.5)] \\ &= 1322.2 + 93.5 \\ &= 1415.7 \end{aligned}$$

The player's first published rating (for the particular rating and platform) will be 1415.7.

EXAMPLE: CALCULATE THE RATING CHANGE OF A RATED PLAYERS

The following table shows the tournament results of a player rated 1500. The time control for the event was 60/60 (60 minutes per player).

Round	Opponent	Diff	Use opponent	Result	Col	We	R-We
1	2000	-500	1960	0	W	0.01	-0.01
2	1800	-300	1800	0.5	B	0.11	0.39
3	1600	-100	1600	1	W	0.43	0.57
4	1300	+200	1300	1	B	0.69	0.31
5	800	+700	1110	1	W	1.00	0.00

The calculations for Main, Standard, Rapid and Blitz would be exactly the same, regardless if the platform was OTB, OL or HYB.

The K-factor for this event is:

- Main: 13.7
- Standard: 24

His total R-We scores: 1.26

Rating gain:

- Main: $13.7 \times 1.26 = 17.3$
- Standard: $24 \times 1.26 = 30.2$