



Data provision in accordance with EU Regulation 2023/1542 on Batteries and Waste Batteries

This document outlines the current vehicle-specific performance and durability parameters as well as the associated boundary conditions according to Article 10 of the EU Battery Regulation 2023/1542. The list only contains vehicle models introduced onto the market after 18/8/2024.

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Boundary conditions for 48 V battery:

Parameter	Technical specification	Explanation for customers
Rated capacity [Ah]	Test current/C rate: 1 C, Temperature: 25°C New battery condition	This value applies to the new battery condition.
Capacity fade [%]	Max. 8 years or max. 200,000 km, normal customer behaviour*, European market	The value indicated relates to predicted, normal customer behaviour after 8 years and varies depending on driving style, charging behaviour, stationary periods and environmental influences.
Peak power [W]	Peak power at 50% SOC, 10 s pulse duration Temperature: 25°C, new battery condition	This value applies to the new battery condition. SOC: State of charge of the battery
Power fade [%]	Peak power at 50% SOC, max. 8 years or max. 200,000 km normal customer behaviour*, European market	The value indicated relates to predicted, normal customer behaviour after 8 years and varies depending on driving style, charging behaviour, stationary periods and environmental influences.
Internal resistance [Ω]	Temperature: 25 °C SOC: 50%, duration: 10 s, 100 A New battery condition	This value applies to the new battery condition.
Internal resistance increase [%]	Max. 8 years or max. 200,000 km, normal customer behaviour*, European market	The value indicated relates to predicted, normal customer behaviour after 8 years and varies depending on driving style, charging behaviour, stationary periods and environmental influences.
Expected service life [years]	Limited to max. 200,000 km, normal customer behaviour*, European market	The indicated guide value for product service life is based on predictions of normal customer behaviour. The actual service life can however vary depending on individual driving style, charging behaviour, stationary periods and environmental influences. No warranty claims can be derived from the expected service life prediction.

*Normal customer behaviour generally includes all customer-typical driving behaviour. Atypical driving behaviour, such as regular racetrack-like driving behaviour or predominant stationary mode, are excluded.

The values indicated here are valid for the above-mentioned boundary conditions.

Vehicle	Type code	48 V battery	Rated capacity [Ah]	Capacity fade [%]	Peak power [W]	Power fade [%]	Internal resistance [Ω]	Increase in internal resistance [%]	Expected service life [years]
120d, 123 xDrive, 120	21GF, 22GF, 61GE, 62GE, 81GE, 82GE	Gen2.2	19.2	less than 30%	20,000	less than 30%	0.013	less than 30%	8 years
Gran Coupé: 220, 220d, 223 xDrive	21GH, 22GH, 31GH, 32GH, 71GG, 72GG	Gen2.2	19.2	less than 30%	20,000	less than 30%	0.013	less than 30%	8 years
Coupé: 220d	11CN, 12CN	Gen1.0	10	less than 35%	13,000	less than 30%	0.014	less than 30%	8 years
Active Tourer: 223i, 223i xDrive, 223d xDrive, 220i, 220d	31BX, 32BX, 41BX, 42BX, 51BY, 52BY, 71BX, 71BY, 72BX, 72BY	Gen2.0	20	less than 50%	20,000	less than 15%	0.008	less than 15%	8 years
318d, 320d, 320d xDrive, 330d xDrive, M340d xDrive, M340i xDrive	11FZ, 21FU, 21FZ, 22FZ, 28FU, 30FU, 31FU, 31FZ, 32FU, 32FZ, 38FU, 40FF, 40FU, 41FF, 41FU, 42FF, 42FU, 48FF, 48FU, 51FU, 51FZ, 58FU, 61FU, 61FZ, 62FU, 62FZ, 68FU, 81FY, 82FY	Gen1.0	10	less than 35%	13,000	less than 30%	0.014	less than 30%	8 years
M340i xDrive	21GL, 22GL, 60FT, 61FT, 62, FT, 68FT	Gen1.5	10	less than 35%	23,200	less than 30%	0.014	less than 30%	8 years
420d, 420d xDrive, 430d xDrive, M440i xDrive, M440d xDrive	41FN, 41FR, 42FN, 42FR, 51AU, 51FN, 51FR, 52FR, 61AU, 61FN, 61FP, 61FR, 61HC, 62FP, 62FR, 62HC, 71AU, 71FN, 71HB, 72HB	Gen1.0	10	less than 35%	13,000	less than 30%	0.014	less than 30%	8 years



M440i xDrive	61FB, 62FB, 71DB, 72DB, 81DA, 82DA	Gen1.5	10	less than 35%	23,200	less than 30%	0.014	less than 30%	8 years
520i, 520d, 520d xDrive, 540d xDrive	11FJ, 11FL, 11GV, 11GW, 12FJ, 12FL, 12GV, 12GW, 21FL, 21GW, 22FL, 22GW, 31FJ, 31FL, 31GW, 32FL	Gen2.0	20	less than 50%	20,000	less than 15%	0.008	less than 15%	8 years
740d, 740d xDrive	11EJ, 12EJ, 21EJ, 22EJ	Gen2.0	20	less than 50%	20,000	less than 15%	0.008	less than 15%	8 years
840d xDrive	BC61, FY61, FY62, GW01, GW02	Gen1.0	10	less than 35%	13,000	less than 30%	0.014	less than 30%	8 years
X1 sDrive20i, X1 xDrive20d, X1 xDrive23i, X1 xDrive23d	31EE, 31EG, 32EE, 32EG, 41EG, 42EG, 51EG, 52EG, 61EE, 62EE	Gen2.0	20	less than 50%	20,000	less than 15%	0.008	less than 15%	8 years
X2 xDrive20d, X2 xDrive20i, X2 sDrive20i	21GM, 22GM, 41GN, 42GN, 51GN, 52GN	Gen2.0	20	less than 50%	20,000	less than 15%	0.008	less than 15%	8 years
Before model change in 2024: X3 sDrive18d, X3 M40d, X3 xDrive30d , X3 xDrive20d, X3 M40d, X3 xDrive20i, X3 sDrive18d, X3 xDrive30i, X3 xDrive30d, X3 M40i	11BZ, 12BZ, 15BZ, 16BZ, 21DN, 21DP, 22DN, 22DP, 25DN, 25DP, 26DN, 26DP, 27DR, 28DF, 29DF, 45DS, 46DS, 48DS, 49DS, 51BZ, 51DP, 52BZ, 52DP, 55BZ, 55DP, 55DS, 56BZ, 56DP, 60DS, 65DS, 81BZ, 81DP, 82BZ, 82DP, 85BZ, 85DP, 86BZ, 86DP	Gen1.0	10	less than 35%	13,000	less than 30%	0.014	less than 30%	8 years
Model change in 2024: X3 20, X3 20d xDrive, X3 40d xDrive, X3 20 xDrive, X3 M50 xDrive	11GP, 11GR, 12GP, 12GR, 15GP, 15GR, 16GR, 25GP, 25GR, 26GR, 31GP, 32GP, 35GP, 36GP, 65GP, 66GP, 71GP, 72GP	Gen2.2	19.2	less than 30%	20,000	less than 30%	0.013	less than 30%	8 years



X4 M40d, X4 xDrive20i, X4 xDrive20d, X4 xDrive30i, X4 M40i, X4 xDrive30d	11DT, 12DT, 31CA, 31DT, 32CA, 32DT, 41DT, 42DT, 61CA, 62CA, 81CA, 82CA	Gen1.0	10	less than 35%	13,000	less than 30%	0.014	less than 30%	8 years
LCI: X5 xDrive30d, X5 xDrive40i, X5 xDrive40d, X5 M60i xDrive, X5 M Competition	11EV, 12EV, 21EU, 21EV, 22EU, 22EV, 31EU, 32EU, 11ET, 12ET	Gen1.5	10	less than 35%	23,200	less than 30%	0.014	less than 30%	8 years
X6 xDrive30d M Sport, X6 xDrive40d M Sport, X6 xDrive40i M Sport, X6 M60i xDrive, X6 M Competition	11EY, 12EY, 21EY, 22EY, 31EX, 32EX, 41EX, 42EX, 21ET, 22ET	Gen1.5	10	less than 35%	23,200	less than 30%	0.014	less than 30%	8 years
X7 xDrive40i, X7 xDrive40d, X7 M60i xDrive	21EM, 21EN, 22EM, 22EN, 31EN, 32EM	Gen1.5	10	less than 35%	23,200	less than 30%	0.014	less than 30%	8 years
M240i xDrive Coupé	51FA, 52FA	Gen1.5	10	less than 35%	23,200	less than 30%	0.014	less than 30%	8 years
From 2025: M440i xDrive	61FB, 62FB, 72DB, 82DA	Gen1.5	10	less than 35%	23,200	less than 30%	0.014	less than 30%	8 years



SOCE

The state of health of the battery (SOCE, State of Certified Energy) indicates the percentage of momentarily available energy compared to the maximum usable energy in the new vehicle. To read out the current state of health for your vehicle, please log into BMW ConnectedDrive using your BMW ID.

<https://www.bmw.de/de/shop/ls/cp/connected-drive>

You can request a digital vehicle archive in the CarData portal. You will receive a table of all the stored telematics data, including the SOCE and the time of the last recording. The SOCE parameter is indicated as the "State of health of the 48 V battery (SOCE)".

Performance and durability parameters of 48 V batteries