

Emission standards in the European Union for passenger cars and light duty vehicles

Table 1: EU emission standards for passenger cars (Category M1*), g/km

Emissions stage	Implementation date: new types	CO	NO _x	Particulate matter limit	Particle number limit
Euro 1	07/1992	2.72	–	0.14	
Euro 2	01/1996	1.00	–	0.08	
Euro 3	01/2000	0.64	0.50	0.05	
Euro 4	01/2005	0.50	0.25	0.025	
Euro 5a	09/2009	0.50	0.18	0.005	
Euro 5b	09/2011	0.50	0.18	0.0045	6 × 10 ¹¹ #/km
Euro 6	09/2014	0.50	0.08	0.0045	6 × 10 ¹¹ #/km

Table 2: EU emission standards for light commercial vehicles, g/km

Category	Emissions stage	Implementation date: new types	NO _x	Particulate matter limit	Particle number limit
N _p , Class I ≤ 1305 kg	Euro 1	10/1994	–	0.140	–
	Euro 2	01/1998	–	0.080	–
	Euro 3	01/2000	0.500	0.050	–
	Euro 4	01/2005	0.250	0.025	–
	Euro 5a	09/2009	0.180	0.005	–
	Euro 5b	09/2011	0.180	0.045	6 × 10 ¹¹ #/km
	Euro 6	09/2014	0.080	0.045	6 × 10 ¹¹ #/km
N _p , Class II 1305-1760 kg	Euro 1	10/1994	–	0.190	–
	Euro 2	01/1998	–	0.120	–
	Euro 3	01/2001	0.650	0.070	–
	Euro 4	01/2006	0.330	0.040	–
	Euro 5a	09/2010	0.235	0.005	–
	Euro 5b	09/2011	0.235	0.045	6 × 10 ¹¹ #/km
	Euro 6	09/2015	0.105	0.045	6 × 10 ¹¹ #/km
N _p , Class III > 1760 kg	Euro 1	10/1994	–	0.250	–
	Euro 2	01/1998	–	0.170	–
	Euro 3	01/2001	0.780	0.100	–
	Euro 4	01/2006	0.390	0.060	–
	Euro 5a	09/2010	0.280	0.005	–
	Euro 5b	09/2011	0.280	0.045	6 × 10 ¹¹ #/km
	Euro 6	09/2015	0.125	0.045	6 × 10 ¹¹ #/km
N ₂	Euro 5a	09/2010	0.280	0.005	–
	Euro 5b	09/2011	0.280	0.045	6 × 10 ¹¹ #/km
	Euro 6	09/2015	0.125	0.045	6 × 10 ¹¹ #/km

* Category M₁: Vehicles designed and constructed for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat.

Category N₁: Vehicles designed and constructed for the carriage of goods and having a maximum mass not exceeding 3.5 tons.

Category N₂: Vehicles designed and constructed for the carriage of goods and having a maximum mass exceeding 3.5 tons but not exceeding 12 tons.

European Union emission regulations for new light duty vehicles (cars and light commercial vehicles) were originally introduced by the Directive 70/220/EEC, followed by a number of amendments. Following are some of the most important steps in the emission regulations:

- **Euro 1** standards (also known as EC 93): Directives 91/441/EEC (passenger cars only) or 93/59/EEC (passenger cars and light trucks)
- **Euro 2** standards (EC 96): Directives 94/12/EC or 96/69/EC
- **Euro 3** standards (required from 01/2000) and Euro 4 standards (required from 01/2005): Directive 98/69/EC, further amendments in 2002/80/EC
- **Euro 5a** standards (required from 09/2009),
- **Euro 5b** standards (required from 09/2011)
- **Euro 6** standards (required from 09/2014): Commission Regulation (EC) No 692/2008 of 18 July 2008 implementing and amending Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6)

Euro 5a stage introduce a **Particle Number** limit of 6 × 10¹¹ km for passenger cars and light duty vehicles (M, N₁, N₂). The particle number limit must be met in addition to the PM mass emission limits listed in the table on the left.