

TECHNICAL GUIDE • QUICK REFERENCE

Automated Gate Safety Basics

A powered gate is a machine. In Great Britain it must meet the Supply of Machinery (Safety) Regulations 2008, with a Declaration of Conformity, technical file, marking and user instructions. BS EN 12453 sets safety-in-use requirements, including force limits of 400 N at crushing points and 1,400 N for impact only. HSE says meeting the standards alone may not be enough.

ITEM	REQUIREMENT	SOURCE
Law (GB)	Supply of Machinery (Safety) Regulations 2008	SMR 2008 , HSE
Product standard	BS EN 13241:2003+A2:2016; Declaration of Performance where in scope	HSE
Safety in use	BS EN 12453:2017+A1:2021	HSE , BSI
Mechanical safety	BS EN 12604:2017	HSE
Crush, shear, draw-in	400 N max dynamic force	BS EN 12453 via HSE , DHF TS 011
Impact only	1,400 N max	BS EN 12453 via HSE , DHF TS 011
Force duration	Above 150 N for 0.75s max; above 25 N for 5s max	DHF TS 011:2019
Handover	Declaration of Conformity, instructions, maintenance and force-test details	HSE

Main hazards

- Crushing at closing edges, hinges and between the gate and fixed objects.
- Shearing and drawing-in at sliding gates and rollers.
- Impact from the moving leaf.
- Gates falling or becoming detached.

Protection measures

- Design out gaps where possible, for example with guards and safe distances.
- Force limitation, tested with calibrated equipment after installation.
- Safety edges and photocells, which are safety components and must meet the machinery regulations.
- Anti-fall and anti-derailment devices; manual release for power failure.

Handover and maintenance

Hand over the Declaration of Conformity, user instructions, maintenance requirements and, where force limitation is used, the limits and how to check them. Keep maintenance and test records. Owners should stop using a gate that does not work safely.

Common questions

Who is responsible for automated gate safety?

Whoever makes the powered gate is the manufacturer (the Responsible Person) under the Supply of Machinery (Safety) Regulations 2008. HSE says that in most cases this includes an installer who assembles a gate from components or converts a manual gate to power. Those in control of the site must keep the gate safe and maintained.

What are the force limits for automated gates?

Under BS EN 12453, as summarised by HSE and the DHF, the dynamic force must not exceed 400 N at crushing, shearing and drawing-in points, and 1,400 N where there is only an impact hazard. Force above 150 N must last no more than 0.75 seconds, and above 25 N no more than 5 seconds.

Is BS EN 13241 enough to show a gate is safe?

No. HSE has said that the standards in the BS EN 13241 package do not fully meet the essential health and safety requirements of the machinery rules. Designers should assess risks beyond the standards, for example with additional safety edges or photocells.

Sources

1. HSE safety bulletin: revision of standards for powered doors, gates and barriers · <https://www.hse.gov.uk/safetybulletins/revision-standards-powered-doors.htm>
2. HSE: powered gates, legal responsibilities · <https://www.hse.gov.uk/work-equipment-machinery/power-gates/responsibilities.htm>
3. The Supply of Machinery (Safety) Regulations 2008 (legislation.gov.uk) · <https://www.legislation.gov.uk/uksi/2008/1597/contents>
4. DHF TS 011:2019 code of practice for automated gates and traffic barriers (Door & Hardware Federation) · <https://www.dhfonline.org.uk/>
5. GOV.UK: using the UKCA marking · <https://www.gov.uk/guidance/using-the-ukca-marking>

Full guide: www.koyda.com/guides/automated-gate-safety/

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