Real Metrics for Real Protection

What Is an Impact Rating?

An impact rating tells you how much energy a safety control (such as a barrier or bollard) can absorb before it fails. Choosing the right solution depends on the level of protection you require for site-specific risks.

What Are Joules — and Why Do They Matter?

Impact ratings are measured in kinetic energy/kilojoules (kJ). The measurement represents how much impact an object can withstand.

The higher the kJ rating, the greater the impact the safety control can handle.

What Is The Impact Rating Table — and How Do I Use It?

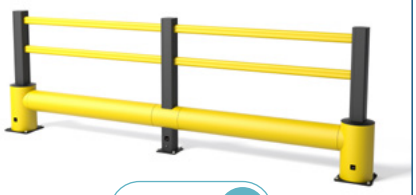
The Impact Rating Table converts vehicle weight and speed combinations into impact ratings.

Use the table to:

- **Appropriately match safety control ratings to the risks on your site**
- **Reduce the risk of under- or over-specifying safety controls for what you are trying to achieve.**

Note: All ratings in this table are calculated based on an impact angle of 90°.

TB 400 PLUS



20.1 kJ

Real-World Example 1

The TB 400 Plus Barrier has an impact rating of 20.1 kJ. That is equivalent to: A 7,000kg forklift colliding with the barrier at 8.6km/h at a 90° angle.

BO250T

24.1 kJ

Real-World Example 2

The BO250T Bollard has an impact rating of 24.1 kJ. That is equivalent to: A 10,000kg forklift colliding with the barrier at 8km/h at a 90° angle.

kJ Impact Rating Table

SPEED (km/h) \ MASS (kg)	2000	3000	5000	7000	10000	12500
2	0.3	0.5	0.8	1.1	1.5	1.9
3	0.7	1.0	1.7	2.4	3.5	4.3
4	1.2	1.9	3.1	4.3	6.2	7.7
5	1.9	2.9	4.8	6.8	9.6	12.1
6	2.8	4.2	6.9	9.7	13.9	17.4
7	3.8	5.7	9.5	13.2	18.9	23.6
8	4.9	7.4	12.3	17.3	24.7	30.9
9	6.3	9.4	15.6	21.9	31.3	39.1
10	7.7	11.6	19.3	27.0	38.6	48.2
11	9.3	14.0	23.3	32.7	46.7	58.4
12	11.1	16.7	27.8	38.9	55.6	69.4
13	13.0	19.6	32.6	45.6	65.2	81.5
14	15.1	22.7	37.8	52.9	75.6	94.5
15	17.4	26.0	43.4	60.8	86.8	108.5

Choosing the Right Impact Rating for Your Site

When deciding which safety control will offer the right protection for people and assets on your site, consider:

- **Types of vehicles operating in the area**
- **Typical travel speeds**
- **Traffic volume and frequency.**