

CHOOSING THE RIGHT OUTER PACKAGING

A number of choices are available for the outer packaging for shippers of single parcels:

- Rectangular corrugated cardboard boxes
- Plastic or paper shipping bags (see the plastic and paper shipping pouch fact sheet)
- Plastic boxes (see plastic box fact sheet)
- Still uncommon: reusable/returnable solutions

QUALITY OF THE CORRUGATED CARDBOARD BOX

Different factors come into play when choosing the right outer packaging. The quality of the corrugated cardboard you need depends primarily on the size and weight of the packaged goods.

The table below shows the recommended quality of corrugated cardboard for the outer packaging by parcel weight. All three packaging components, however, should be chosen with regard to their suitability for the packaged goods. They work in combination. Thus, the table provides important orientation for the outer packaging but the inner packaging and the tape seals must also be suitable for the packaged goods. Only then can you say you have a good packaging solution.

Specification (quality) for domestic shipping			
*Parcel weight	Corrugated cardboard	Burst strength in kilopascals (kPa)	Edge Crush Test (ECT) in $\frac{kN}{m}$
Up to 5 kg	Single wall	1,000	4.5
Up to 10 kg	Double wall	1,000	6.5
Up to 20 kg	Double wall	1,200	8.0
Up to 30 kg	Double wall	2,000	9.5

*The goal is to no longer declare goods by type of corrugated cardboard.

Burst strength is a quality indicator that has an impact on two important aspects: weight capacity and transport. The **Edge Crush Test** measures the durability and stacking strength of the box. A corrugated box should meet at least one of the two criteria.

For **international shipments**, all table values should be at least 10% higher.

FLUTE TYPE AND NUMBER OF WALLS

Corrugated cardboard is distinguished according to the number of walls (single or double) and type of flutes or waves (e.g., F, E, B or C).

In general, the sturdiness of a cardboard box increases as the size of the flute types and the number of walls increase. In practical terms, **larger and heavier** products need thicker **corrugated cardboard**.

Like an airbag, corrugated cardboard can mitigate the damaging effect of external forces (crushing and impact) on packaged goods. The larger the buffer zone, the greater its effectiveness. Consequently, additional corrugated inserts with the corresponding thickness (=wall number, flute type) can provide better protection.

