

# CHECKSTOW LIGHTWEIGHT DUNNAGE AIRBAG



TECHNICAL DATA SHEET - CheckStow Lightweight Dunnage Airbag

## CheckStow is the future:

The new CheckStow dunnage air bag is designed for heavy duty use in the toughest conditions. The 1600 denier woven polypropylene outer gives this bag a clear lead in strength, resistance to water and value for money compared with other materials, while the high density polythene liner ensures long term air retention and the possibility of re-use.

## Applications:

Checkstow is used for all types of cargo where a low cost airbag is required. It is equally suited for maritime break bulk cargos, container dunnage, and road or rail transport. Checkstow Heavy Duty is able to match all dunnage requirements where value and strength are the priorities.



## Design:

Checkstow follows the well established engineering principle which says "the simpler the better". The outer re-enforcement layer of 1600 denier slit polypropylene is tubular woven and folded and sewn at the ends with polyester cloth re-enforcement. This results in an outer layer of high strength with excellent puncture resistance. Air is retained by the high density 125 micron polythene inner which is co extruded and blow moulded with welded ends. The simple valve assembly is welded in place. Optimised materials make a highly cost effective, re-usable bag.

## Principal Features:

- ▶ Made from 100% recyclable materials
- ▶ High burst pressure ensures safety and effectiveness
- ▶ Can withstand all environmental conditions
- ▶ No reduction in strength when wet or in high humidity
- ▶ Woven material gives high friction surface
- ▶ Very low weight
- ▶ Supplied in standardised cartons for ease of handling and identification
- ▶ May be re-used



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## Heavy Duty Strength:

The load an air bag can withstand depends on the strength of material used, quality of construction and the size of gap between the goods which it is used in. The narrower the gap, the less stress on the airbag, so the higher the pressure it will withstand and thus the greater the load. Also, the greater the contact area of the bag with the goods the better because this allows the pressure in the bag to be exerted on the goods rather than “wasted” stressing its own material. It follows that in a narrow gap the contact area will be greater than in a wide one, so the airbag will be more effective and less likely to burst. The maximum gap recommended is 30cm.

This is illustrated in the performance table for a 90cm x 180cm Checkstow:

Airbag size (cm)	Gap size (cm)	Working pressure bar (psi)	Load at working pressure (tonnes)
90 x 180	5	0.55 (8)	7.92
	10	0.55 (8)	6.84
	20	0.55 (8)	4.87
	30	0.55 (8)	3.19

The force available depends on the gap – the smaller the gap the better the level of protection against movement in tough conditions.

## Airbag Sizes and Weights:

Standard sizes are 90cm x 180cm, weighing 1.1 kg and 90cm x 120cm weighing 0.73 kg. Special sizes are available for large orders.

## Working Pressure:

Strong materials allow a safe working pressure of 0.55 bar (8 psi). This ensures there is enough safety margin to allow for changes in ambient temperature. Increases will make the airbag pressure go up and decreases will make it go down. Checkstow’s heavy duty construction allows a margin of safety not possible with other bags which risk bursting as temperatures increase or getting too soft as they decrease. The forces available can be very high. Consideration must be given to whether the cargo and packaging can withstand the inflation pressure chosen.

## Valves:

Checkstow’s re-usable valve is designed to be simple and effective. It can be used with a variety of filling guns. Our own gun is available if required.



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