



# GrainPro SuperGrainbags™



The quality of agricultural commodities can be preserved in SuperGrainbags.

## Modified Atmosphere (MA) Storage of Dry Agricultural Commodities

Low cost SuperGrainbags are intended for resealable safe storage of dry commodities in reusable or disposable bags in sizes from 1 to 50 Kg capacity. SuperGrainbags act as a gas and moisture-proof barrier and larger sizes may be placed inside any convenient protective cover such as woven polypropylene or paper bags for physical protection. The distinctive gas barrier properties of the multi-layer plastic used for the bags enable excellent protection against ingress of water vapor, while retaining low O<sub>2</sub> and high CO<sub>2</sub> levels created by the respiration of the commodity.

**Material** – Tough, transparent multi-layer with gas barrier between 2 layers of PE, 0.078 mm thick (0.003 inches), material weights 50 g/m<sup>2</sup> (double layer).

**Usable temperature range:** -18°C to 95°C

### Some recommended uses:

- Seeds of all types to preserve germination potential without refrigeration over many months
- Coffee and cocoa beans
- Milled rice (white and brown)
- Flour, grits
- Hygroscopic Commodities
- Spices

### Closure – Bags may be closed by:

1. twisting top and using a rubber band
2. rolling and clamping top
3. heat-sealing using electric or hand held sealer



Hermetically sealed SuperGrainbag with paddy seeds.

**Resistance** – Very strong material (see back), low moisture and oxygen permeability, infesting insects use oxygen and die. SuperGrainbags are normally used as a liner inside polypropylene woven jute or equivalent protective bag. Smaller bags can be used without outer bag.

**Transportability** – Easily transported, when full, in similar manner to conventional jute, polypropylene or paper bags.

**Size** – Made according to customer's demand.

**Printing** – Customer specified printing on transparent surface with one to six colors.

*GrainPro SuperGrainbags are made under strict quality control meeting ISO 9002 standards.*

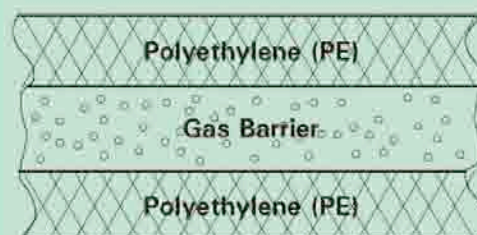
## SuperGrainbag Material Specifications

- Usable temperature range: 95°C to minus 18°C
- No inherent curling
- May be surface-printed up to 6 colors
- Outstanding strength
- Excellent sealability

## Typical Values :

Property	Astm	Values	Units
Thickness		0.078	mm (0.003")
Weight		100	gm/m <sup>2</sup>
Tensile Strength MD	D-882	35	N /mm <sup>2</sup>
TD		30	
Elongation MD	D-882	600	%
TD		600	
Impact F50	D-1709	600	g
Puncture Energy	GrainPro method	300	N-mm
Haze	D-1003	15	%
Clarity	D-1746	85.0	%
C.O.F IN-IN (static/dinam.)	D-1894	0.4/0.3	
Oxygen permeability 23°C, dry	D-3985	55.0	cc/m <sup>2</sup> /day
WVTR (Water Vapor) 38°C, 90% rh	E-96	8	g/m <sup>2</sup> /day

Diagram SuperGrainbag Plastic



Label used by the International Rice Research Institute (IRRI) on GrainPro SuperGrainbags:

## IRRI Super bag

### A Sealed Storage System for Seed or Grain

#### To use:

1. Place SuperGrainbag inside existing storage bag. 
2. Fill SuperGrainbag with seed or grain. 
3. Remove as much air from above grain as possible. 
4. Close the opening by twisting the free plastic portion and fold it in two then tie off with strong rubber band or adhesive tape. 
5. Close the outer bag, taking care not to puncture the super bag. 

For further information on sealed storage systems, please access the Rice Knowledge Bank:

[www.knowledgebank.rice.org](http://www.knowledgebank.rice.org)



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