

Initiative of



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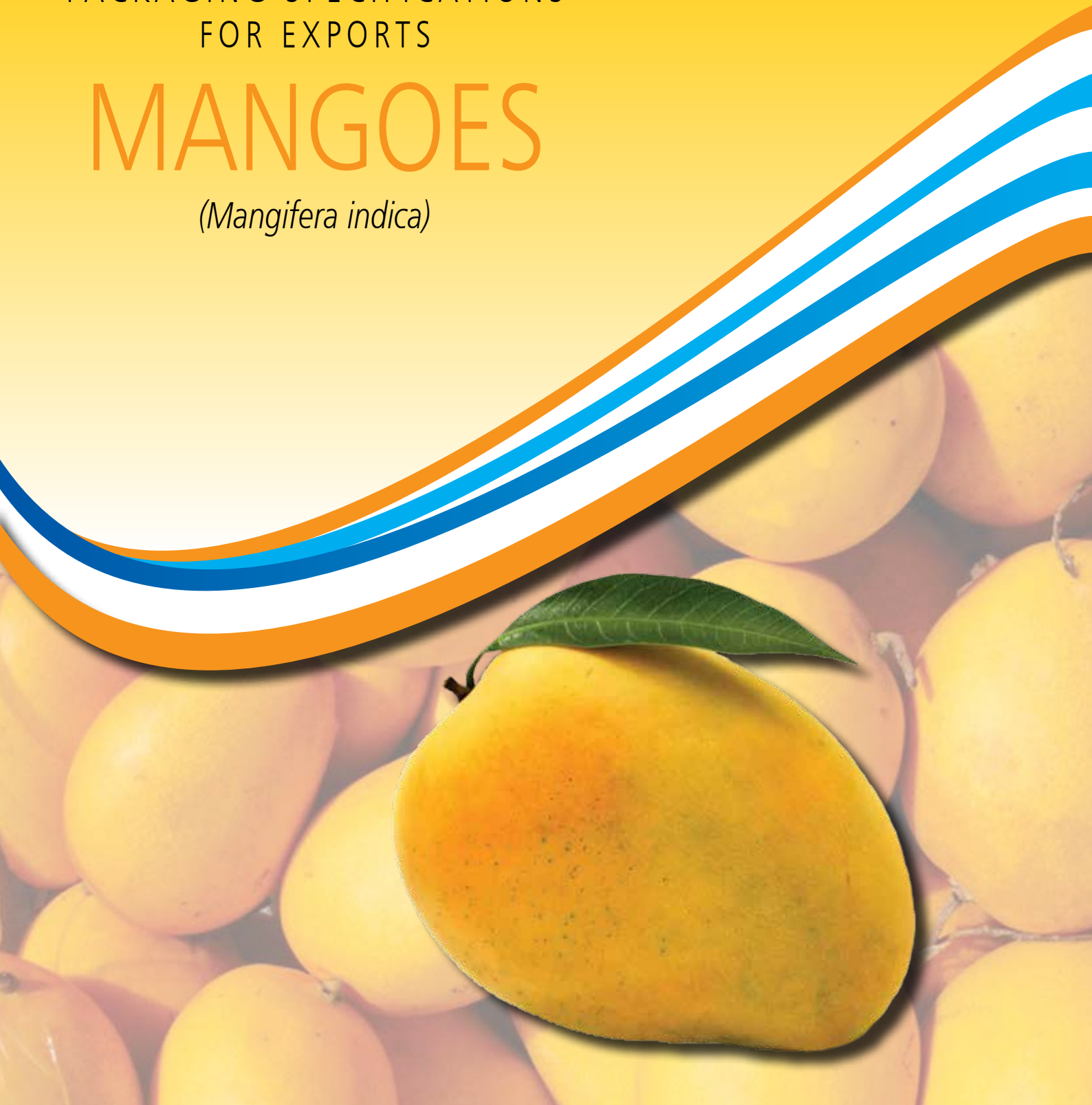


भारतीय पैकेजिंग संस्थान
Indian Institute of Packaging

PACKAGING SPECIFICATIONS
FOR EXPORTS

MANGOES

(Mangifera indica)



MANGOES

DIRECT BULK PACK

Corrugated Fibreboard Box

Capacity: 6 nos.

A. Minimum Specifications

Material of Construction*	Corrugated Fibre Board	Corrugated Fibre Board	Corrugated Fibre Board	Corrugated Fibre Board
External Dimensions (mm)				
Alphonso	225 x 170 x 90	225 x 170 x 90	225 x 170 x 90	225 x 170 x 90
Kesar	225 x 170 x 100	225 x 170 x 100	225 x 170 x 100	225 x 170 x 100
Dusheri	200 x 200 x 95	200 x 200 x 95	200 x 200 x 95	200 x 200 x 95
Banganpalli	230 x 180 x 100	230 x 180 x 100	230 x 180 x 100	230 x 180 x 100
Chausa	230 x 185 x 100	230 x 185 x 100	230 x 185 x 100	230 x 185x 100
Style of Box**	RSC - 0201	Telescopic - 0300	Telescopic - 0306	Telescopic - 0312
No. of Plies	3.0	Lid - 3 Tray - 3	Lid - 3 Tray - 3	Lid - 3 Tray - 3
Type of Flutes	B (Narrow)	Lid B (Narrow) Tray B (Narrow)	Lid B (Narrow) Tray B (Narrow)	Lid B (Narrow) Tray B (Narrow)
Direction of Flutes	Vertical	Vertical	Vertical	Vertical
Grammage (g/m ²) Outer to Inner (Indicative)	250 / 150 / 150	Lid : 250/150/150 Tray : 250/150/150	Lid : 250/150/150 Tray : 250/150/150	Lid : 250/150/150 Tray : 250/150/150
Burst Factor of Paper (Kraft) (Minimum)	20.0	20.0	20.0	20.0
Bursting Strength of Board (Kg / cm ²) (Minimum)	11.0	Lid : 11.0 Tray : 11.0	Lid : 11.0 Tray : 11.0	Lid : 11.0 Tray : 11.0
No. of Pieces Per Box	Not more than two	Not more than two	Not more than two	Not more than two
Manufacture's Joint	By gluing	By gluing	By gluing	By gluing
Compression Strength of Box (Kgf) (Minimum)	350	350	350	350
Cobb (30 Minutes)*** (g/m ²) (Maximum)	60	60	60	60
No. of Ventilation Holes	16.0	16.0	16.0	16.0
Diameter (mm) and Position of Holes	20.0	20.0	20.0	20.0
Two Sides Each	3	3	3	3
Two Ends Each	1	1	1	1
Top & Bottom Each	4	4	4	4

B. Recommended Specifications

Edge Crush (Kgf) (Min)				
Alphonso	43.00	43.00	43.00	43.00
Kesar	38.00	38.00	38.00	38.00
Dusheri	38.00	38.00	38.00	38.00
Banganpalli	42.00	42.00	42.00	42.00
Chausa	33.00	33.00	33.00	33.00

*Outer ply of white duplex board or bleached kraft

**Or any other suitable style which provides equal strength and performance

***Outer ply to be laminated or coated for water proofing

Note: • Dimensions of the box are modular to Euro pallets. However, any other dimensions or box styles to suit importers requirements could also be used.
• Grammage mentioned is indicative. However, any other grammage which provides equal strength and performance can be used.
• Diameter and no. of holes should be 20mm and 16 nos. respectively. However, sufficient ventilation depending upon the box style could also be used.

Corrugated Fibreboard Box

Capacity: 9 nos.

A. Minimum Specifications

Material of Construction*	Corrugated Fibre Board	Corrugated Fibre Board	Corrugated Fibre Board	Corrugated Fibre Board
External Dimensions (mm)				
Alphonso	225 x 225 x 90	225 x 225 x 90	225 x 225 x 90	225 x 225 x 90
Kesar	225 x 225 x 100	225 x 225 x 100	225 x 225 x 100	225 x 225 x 100
Dusheri	300 x 205 x 95	300 x 205 x 95	300 x 205 x 95	300 x 205 x 95
Banganpalli	250 x 230 x 100	250 x 230 x 100	250 x 230 x 100	250 x 230 x 100
Chausa	230 x 230 x 100	230 x 230 x 100	230 x 230 x 100	230 x 230 x 100
Style of Box**	RSC - 0201	Telescopic - 0300	Telescopic - 0306	Telescopic - 0312
No. of Plies	3.0	Lid - 3 Tray - 3	Lid - 3 Tray - 3	Lid - 3 Tray - 3
Type of Flutes	B (Narrow)	Lid B (Narrow) Tray B (Narrow)	Lid B (Narrow) Tray B (Narrow)	Lid B (Narrow) Tray B (Narrow)
Direction of Flutes	Vertical	Vertical	Vertical	Vertical
Grammage (g/m ²) Outer to Inner (Indicative)	250 / 150 / 150	Lid : 250/150/150 Tray : 250/150/150	Lid : 250/150/150 Tray : 250/150/150	Lid : 250/150/150 Tray : 250/150/150
Burst Factor of Paper (Kraft) (Minimum)	20.0	20.0	20.0	20.0
Bursting Strength of Board (Kg / cm ²) (Minimum)	11.0	Lid : 11.0 Tray : 11.0	Lid : 11.0 Tray : 11.0	Lid : 11.0 Tray : 11.0
No. of Pieces Per Box	Not more than two	Not more than two	Not more than two	Not more than two
Manufacture's Joint	By gluing	By gluing	By gluing	By gluing
Compression Strength of Box (Kgf) (Minimum)	350	350	350	350
Cobb (30 Minutes)*** (g/m ²) (Maximum)	60	60	60	60
No. of Ventilation Holes	16.0	16.0	16.0	16.0
Diameter (mm) and Position of Holes	20.0	20.0	20.0	20.0
Two Sides Each	3	3	3	3
Two Ends Each	1	1	1	1
Top & Bottom Each	4	4	4	4

B. Recommended Specifications

Edge Crush (Kgf) (Min)				
Alphonso	39.00	39.00	39.00	39.00
Kesar	41.00	41.00	41.00	41.00
Dusheri	33.00	33.00	33.00	33.00
Banganpalli	41.00	41.00	41.00	41.00
Chausa	33.00	33.00	33.00	33.00

*Outer ply of white duplex board or bleached kraft

**Or any other suitable style which provides equal strength and performance

***Outer ply to be laminated or coated for water proofing

Note: • Dimensions of the box are modular to Euro pallets. However, any other dimensions or box styles to suit importers requirements could also be used.
• Grammage mentioned is indicative. However, any other grammage which provides equal strength and performance can be used.
• Diameter and no. of holes should be 20mm and 16 nos. respectively. However, sufficient ventilation depending upon the box style could also be used.

MANGOES

DIRECT BULK PACK

Corrugated Fibreboard Box

Capacity: 12 nos.

A. Minimum Specifications

Material of Construction*	Corrugated Fibre Board	Corrugated Fibre Board	Corrugated Fibre Board	Corrugated Fibre Board
External Dimensions (mm)				
Alphonso	320 x 230 x 90	320 x 230 x 90	320 x 230 x 90	320 x 230 x 90
Kesar	260 x 230 x 100	260 x 230 x 100	260 x 230 x 100	260 x 230 x 100
Dusheri	330 x 210 x 95	330 x 210 x 95	330 x 210 x 95	330 x 210 x 95
Banganpalli	330 x 250 x 100	330 x 250 x 100	330 x 250 x 100	330 x 250 x 100
Chausa	305 x 220 x 100	305 x 220 x 100	305 x 220 x 100	305 x 220 x 100
Style of Box**	RSC - 0201	Telescopic - 0300	Telescopic - 0306	Telescopic - 0312
No. of Plies	5.0	Lid - 3 Tray - 3	Lid - 3 Tray - 3	Lid - 3 Tray - 5
Type of Flutes	B/B (Narrow)	Tray B (Narrow) Lid B (Narrow)	Lid B (Narrow) Tray B (Narrow)	Lid B (Narrow) Tray B/B (Narrow)
Direction of Flutes	Vertical	Vertical	Vertical	Vertical
Grammage (g/m ²) Outer to Inner (Indicative)	250 / 120 / 120 / 120 / 120	Lid : 250/150/150 Tray : 250/150/150	Lid : 250/150/150 Tray : 250/150/150	Lid : 250/150/150 Tray : 250/120/120/ 120 / 120
Burst Factor of Paper (Kraft) (Minimum)	20.0	20.0	20.0	20.0
Bursting Strength of Board (Kg / cm ²) (Minimum)	14.0	Lid : 11.0 Tray : 11.0	Lid : 11.0 Tray : 11.0	Lid : 11.0 Tray : 11.0
No. of Pieces Per Box	Not more than two	Not more than two	Not more than two	Not more than two
Manufacture's Joint	By gluing	By gluing	By gluing	By gluing
Compression Strength of Box (Kgf) (Minimum)	450	450	450	450
Cobb (30 Minutes)*** (g/m ²) (Maximum)	60	60	60	60
No. of Ventilation Holes	16.0	16.0	16.0	16.0
Diameter (mm) and Position Two of Holes	20.0	20.0	20.0	20.0
Two Sides Each	3	3	3	3
Two Ends Each	1	1	1	1
Top & Bottom Each	4	4	4	4

B. Recommended Specifications

Edge Crush (Kgf) (Min)				
Alphonso	39.00	39.00	39.00	39.00
Kesar	41.00	41.00	41.00	41.00
Dusheri	32.00	32.00	32.00	32.00
Banganpalli	40.00	40.00	40.00	40.00
Chausa	48.00	48.00	48.00	48.00

*Outer ply of white duplex board or bleached kraft

**Or any other suitable style which provides equal strength and performance

***Outer ply to be laminated or coated for water proofing

- Note:
- Dimensions of the box are modular to Euro pallets. However, any other dimensions or box styles to suit importers requirements could also be used.
 - Grammage mentioned is indicative. However, any other grammage which provides equal strength and performance can be used.
 - Diameter and no. of holes should be 20mm and 16 nos. respectively. However, sufficient ventilation depending upon the box style could also be used.

Corrugated Fibreboard Box

Capacity: 15 nos.

A. Minimum Specifications

Material of Construction*	Corrugated Fibre Board	Corrugated Fibre Board	Corrugated Fibre Board	Corrugated Fibre Board
External Dimensions (mm)				
Alphonso	390 x 225 x 90	390 x 225 x 90	390 x 225 x 90	390 x 225 x 90
Kesar	350 x 220 x 100	350 x 220 x 100	350 x 220 x 100	350 x 220 x 100
Dusheri	350 x 210 x 95	350 x 210 x 95	350 x 210 x 95	350 x 210 x 95
Banganpalli	390 x 240 x 100	390 x 240 x 100	390 x 240 x 100	390 x 240 x 100
Chausa	390 x 220 x 100	390 x 220 x 100	390 x 220 x 100	390 x 220 x 100
Style of Box**	RSC - 0201	Telescopic - 0300	Telescopic - 0306	Telescopic - 0312
No. of Plies	5.0	Lid - 3 Tray - 3	Lid - 3 Tray - 3	Lid - 3 Tray - 5
Type of Flutes	B/B (Narrow)	Lid B (Narrow) Tray B (Narrow)	Lid B (Narrow) Tray B (Narrow)	Lid B (Narrow) Tray B / B(Narrow)
Direction of Flutes	Vertical	Vertical	Vertical	Vertical
Grammage (g/m ²) Outer to Inner (Indicative)	250 / 120 / 120 / 120 / 120	Lid : 250/150/150 Tray : 250/150/150	Lid : 250/150/150 Tray : 250/150/150	Lid : 250/150/150 Tray : 250/120/120/ 120 / 120
Burst Factor of Paper (Kraft) (Minimum)	20.0	20.0	20.0	20.0
Bursting Strength of Board (Kg / cm ²) (Minimum)	14.0	Lid : 11.0 Tray : 11.0	Lid : 11.0 Tray : 11.0	Lid : 11.0 Tray : 11.0
No. of Pieces Per Box	Not more than two	Not more than two	Not more than two	Not more than two
Manufacture's Joint	By gluing	By gluing	By gluing	By gluing
Compression Strength of Box (Kgf) (Minimum)	450	450	450	450
Cobb (30 Minutes)*** (g/m ²) (Maximum)	60	60	60	60
No. of Ventilation Holes	16.0	16.0	16.0	16.0
Diameter (mm) and Position of Holes	20.0	20.0	20.0	20.0
Two Sides Each	3	3	3	3
Two Ends Each	1	1	1	1
Top & Bottom Each	4	4	4	4

B. Recommended Specifications

Edge Crush (Kgf) (Min)				
Alphonso	39.00	39.00	39.00	39.00
Kesar	41.00	41.00	41.00	41.00
Dusheri	32.00	32.00	32.00	32.00
Banganpalli	41.00	41.00	41.00	41.00
Chausa	48.00	48.00	48.00	48.00

*Outer ply of white duplex board or bleached kraft

**Or any other suitable style which provides equal strength and performance

***Outer ply to be laminated or coated for water proofing

- Note:
- Dimensions of the box are modular to Euro pallets. However, any other dimensions or box styles to suit importers requirements could also be used.
 - Grammage mentioned is indicative. However, any other grammage which provides equal strength and performance can be used.
 - Diameter and no. of holes should be 20mm and 16 nos. respectively. However, sufficient ventilation depending upon the box style could also be used.

MANGOES

DIRECT BULK PACK

Corrugated Fibreboard Box

Capacity: 18 nos.

A. Minimum Specifications

Material of Construction*	Corrugated Fibre Board	Corrugated Fibre Board	Corrugated Fibre Board	Corrugated Fibre Board
External Dimensions (mm)				
Alphonso	460 x 250 x 90	460 x 250 x 90	460 x 250 x 90	460 x 250 x 90
Kesar	420 x 220 x 100	420 x 220 x 100	420 x 220 x 100	420 x 220 x 100
Dusheri	420 x 220 x 95	420 x 220 x 95	420 x 220 x 95	420 x 220 x 95
Banganpalli	460 x 250 x 100	460 x 250 x 100	460 x 250 x 100	460 x 250 x 100
Chausa	475 x 220 x 100	475 x 220 x 100	475 x 220 x 100	475 x 220 x 100
Style of Box**	RSC - 0201	Telescopic - 0300	Telescopic - 0306	Telescopic - 0312
No. of Plies	5.0	Lid - 3 Tray - 3	Lid - 3 Tray - 3	Lid - 3 Tray - 5
Type of Flutes	B/B (Narrow)	Lid B (Narrow) Tray B (Narrow)	Lid B (Narrow) Tray B (Narrow)	Lid B (Narrow) Tray B / B(Narrow)
Direction of Flutes	Vertical	Vertical	Vertical	Vertical
Grammage (g/m ²) Outer to Inner (Indicative)	250 / 120 / 120 / 120 / 120	Lid : 250/150/150 Tray : 250/150/150	Lid : 250/150/150 Tray : 250/150/150	Lid : 250/150/150 Tray : 250/120/120/ 120 / 120
Burst Factor of Paper (Kraft) (Minimum)	20.0	20.0	20.0	20.0
Bursting Strength of Board (Kg / cm ²) (Minimum)	14.0	Lid : 11.0 Tray : 11.0	Lid : 11.0 Tray : 11.0	Lid : 11.0 Tray : 11.0
No. of Pieces Per Box	Not more than two	Not more than two	Not more than two	Not more than two
Manufacture's Joint	By gluing	By gluing	By gluing	By gluing
Compression Strength of Box (Kgf) (Minimum)	450	450	450	450
Cobb (30 Minutes)*** (g/m ²) (Maximum)	60	60	60	60
No. of Ventilation Holes	16.0	16.0	16.0	16.0
Diameter (mm) and Position of Holes	20.0	20.0	20.0	20.0
Two Sides Each	3	3	3	3
Two Ends Each	1	1	1	1
Top & Bottom Each	4	4	4	4

B. Recommended Specifications

Edge Crush (Kgf) (Min)				
Alphonso	39.00	39.00	39.00	39.00
Kesar	41.00	41.00	41.00	41.00
Dusheri	32.00	32.00	32.00	32.00
Banganpalli	41.00	41.00	41.00	41.00
Chausa	48.00	48.00	48.00	48.00

*Outer ply of white duplex board or bleached kraft

**Or any other suitable style which provides equal strength and performance

***Outer ply to be laminated or coated for water proofing

- Note:
- Dimensions of the box are modular to Euro pallets. However, any other dimensions or box styles to suit importers requirements could also be used.
 - Grammage mentioned is indicative. However, any other grammage which provides equal strength and performance can be used.
 - Diameter and no. of holes should be 20mm and 16 nos. respectively. However, sufficient ventilation depending upon the box style could also be used.

Specification Details for Reinforcement Material

Pressure Sensitive Tape

- Material of Construction BOPP or PVC
(Biaxally Oriented Polypropylene or Poly Vinyl Chloride)
- Thickness 20 μ
- Width (Minimum) 50 mm
- Adhesive Property As per IS:3676-1986

For further specification details refer IS:2880-1978

Reinforcement Strap

- Material of Construction PP (Polypropylene)
- Width (Minimum) 12 mm
- Thickness (Minimum) 0.05 mm
- Breaking Load (Minimum) 80 Kg / 12 mm width
- Elongation (Maximum) 25%



APEDA and IIP: A Joint Initiative

Packaging is a co-ordinated system of preparing goods for transport, distribution, storage, retailing and end use.

The need for quality packaging for distribution and marketing of food products can hardly be over emphasised. With the thrust on promotion of exports, it is imperative that adequate attention be paid to packaging and logistics.

A comprehensive set of specifications for packaging of fresh fruits and vegetables is essential to help farm producers to effectively market their produce in a safe and cost-effective manner - in the domestic as well as export markets.

The Agricultural and Processed Food Products Export Development Authority (APEDA) and the Indian Institute of Packaging (IIP), have made efforts in the direction of developing packaging standards for fresh fruits, vegetables and as per the international requirements.

The packaging standards drawn up by the IIP would immensely help the exporters in procuring quality packaging materials and ensuring safe delivery of the produce to the destination markets.

PACKAGES



6 nos.



9 nos.



12 nos.



15 nos.



18 nos.





कृषि और प्रसंस्कृत खाद्य उत्पादन निर्यात विकास प्राधिकरण

(वाणिज्य मंत्रालय, भारत सरकार)

Agricultural and Processed Food Products Export Development Authority

(Ministry of Commerce, Govt. of India)

3rd Floor, NCUI Building, 3 Siri Institutional Area,
August Kranti Marg, New Delhi - 110 016 (INDIA).

Tel: +91-11-2651 3204 / 2651 4572 / 2653 4186

Fax: +91-11-2652 6187

E-mail: headq@apeda.com

Website: www.apeda.gov.in

Regional Offices

Mumbai Office

4th Floor, Unit NO. 3 & 4,
Banking Complex Bldg. No. II,
Sector 19 A, Vashi,
Navi Mumbai 400 0705
Tel : 022-27 84 09 49/27 84 54 42
Fax : 022-27 84 22 73
Email : apedamum@apeda.gov.in

Hyderabad Office

8th Floor, Chandra Vihar Bldg.,
M. J. Road, Hyderabad - 500 001.
Tel : 040-24 74 59 40
Fax : 040-24 74 59 47
Email : apedahyd@apeda.gov.in

Bangalore Office

12/1/1, Palace Cross Road,
Bangalore - 560 020.
Tel : 080-23 34 34 25/23 36 82 72
Fax : 080-23 36 45 60
Email : apedablr@apeda.gov.in

Guwahati Office

3rd Floor, G S Road,
Opp. Old Post Office, Jain Complex,
Guwahati 781 005
Tel : 0361-2340485
Fax : 0361-2599010
Email : apedagwh@apeda.gov.in

Kolkata Office

Mayukh Bhawan,
Bidhan Nagar, Kolkata - 700 091.
Tel : 033-23 37 83 63
Fax : 033-40 66 92 91
Email : apedakol@apeda.gov.in

Specifications developed by IIP for APEDA



भारतीय पैकेजिंग संस्थान
Indian Institute of Packaging

E-2, MIDC Area, Post Box No. 9432,
Andheri (E), Mumbai - 400 093. INDIA
Tel: +91-22-2821 9803 / 6751 / 9469
Fax: +91-22-2837 5302 / 2825 4631
E-mail: iip@iip-in.com, Web: www.iip-in.com