

**PS: 4773-2002**

**(ICS: 55.120:77.140.50)**

**PAKISTAN STANDARD SPECIFICATION  
FOR  
TINPLATE CONTAINERS  
FOR  
GHEE, BANASPATI GHEE, COOKING / EDIBLE OILS**



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PAKISTAN STANDARDS INSTITUTION  
39, Garden Road, Saddar  
Karachi – 74400**

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PAKISTAN STANDARD SPECIFICATION

**FOR**

TINPLATE CONTAINERS FOR GHEE, BANASPATI GHEE, COOKING / EDIBLE OILS.

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5. Govt. Public Analyst,  
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LAHORE.

(ii)

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Quality Assurance Manager, Nestle Milk Pak Ltd,  
Shaikhupura Road, SHAIKHUPURA.
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PORT QASIM.
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Manager Client Services, Trans Pak (Pvt.) Ltd.,  
F-31-A, S.I.T.E., KARACHI.
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Production Manager, Cbm Plastics (Pvt.) Ltd.,  
F-21, S.I.T.E., KARACHI.
20. Secretary, Pakistan Vanaspati Manufacturers  
Association, 5-B, Sector F-7/3,  
College Road, ISLAMABAD.
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Burma Oil Mills Ltd.,  
V.M. Plaza, West Wharf, KARACHI.
22. General Manager, United Industries Ltd.,  
101, 1<sup>st</sup> Floor, Regency Arcade,  
The Mall, FAISALABAD.
23. Dr. Noor Ahmed Khan,  
Officer Incharge, Microneutrient Initiative, CIDA Programme  
Support Unit,13, Bazar Road, G-6/4,  
P. O. Box No.2934, ISLAMABAD.
24. Mr. M. Aslam Warsi,  
President, Punjab Tinsplate Association,  
Younus Market, O/S Serai Sultan Bazar,  
Lunda Bazar, LAHORE.

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25. Mr. Sohrab J. Sidhwa,  
Factory Manager, Top Can Industries (Pvt.) Ltd.,  
F-33, Hub River Road, KARACHI.
26. Mr. Nizar G. Hussain,  
Chairman, Agro. Processors & Atmospheric Gases  
(Pvt.) Ltd, F-392, S.I.T.E.,  
KARACHI
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General Manager, Habib Cooking Oil Mills (Pvt.) Ltd,  
D-38, SITE, KARACHI
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HYDERABAD.
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Director (Ex-Officio), Pakistan Standards & Quality Control  
Authority, Standards Development Centre,  
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Authority, Standards Development Centre,  
KARACHI.
2. Mr. Naseem-us-Sami,  
Dy. Asstt. Director (Agri. & Food), Pakistan Standards & Quality Control  
Authority, Standards Development Centre,  
KARACHI.
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PAKISTAN STANDARD SPECIFICATION  
FOR  
TINPLATE CONTAINERS FOR  
GHEE, BANASPATI GHEE, COOKING / EDIBLE OILS.

0. **FOREWORD**

0.1 This Pakistan Standard was adopted by the Pakistan Standards & Quality Control Authority, Standards Development Centre on 27-06-2002 after the draft finalized by the Food Packaging Material Sectional Committee had been approved by the Agriculture & Food Products Divisional Council.

0.2 While formulating this standard, the Sectional Committee (AFDC-27) has harmonized this standard with ISO and other foreign standards.

0.3 This standard is intended chiefly to cover the technical provisions relating to Ghee, Banaspati Ghee, Cooking / Edible Oils Tins up to 16 kg (or litre) capacity and it does not for packing of Ghee, Banaspati Ghee, Cooking and Edible Oils including Bakery Shortenings cover all the necessary provisions of a contract.

0.4 For the purpose of deciding whether a particular requirements of this standard is complied with the final value observed or calculated expressing the result of a test or analysis shall be rounded off in accordance with PS:103-1991 (1<sup>st</sup> Rev.) Methods of Rounding Off Numerical Values, the number in significant places retained in the rounded value, shall be same as that of the specified value in this standard.

1. **SCOPE**

This standard specifies the requirements of 16 kg, 10 kg, 5 kg, 4.5 kg, 2.5 kg, 1 kg (or litre), round and square tins, used.

2. **REFERENCES**

- i. PS:4668/ISO:11949 - Cold Reduced Electrolytic Tintplate.
- ii. PS:981/ISO:2408 - Steel Wire Rope – Characteristics.

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### 3. **TERMINOLOGY**

For the purpose of this standard, the definitions given in PS:4668/ISO:11949 shall apply.

### 4. **REQUIREMENTS**

#### 4.1 Shape and Dimensions

##### 4.1.1 Round and Square Tins up to 16 kg (or litre).

Round and Square tins up to 16 kg (or litre) capacity for Banaspati, Ghee, Cooking/Edible Oils, Vegetable Oils shall be of characteristics as given in Table – 1.

### 4.2 **MATERIAL**

#### 4.2.1 Body and Ends

4.2.1.1 For tin containers of 1 kg (or litre) to 16 kg (or litre) capacity, the material used shall be single reduced electrolytic tinplate of standard grade as defined in PS:4668/ ISO:11949. The thickness of body and Ends, shall conform to Table – 1. Reworked/used material is not allowed to fabricate tin containers for food packages.

#### 4.2.2 **TIN COATING**

4.2.2.1 The thickness of tin coating shall be of grade E 2.8/2.8 i.e. 2.8 g/m<sup>2</sup> on both side. The Tin coating shall be minimum 2.5 g/m<sup>2</sup> after allowing permissible deviation for sample average from nominal coating mass. The tin coating shall be checked by the method as described in clause 14.2 and Annexure – A of PS:4668/ ISO:11949. The Ghee containers shall preferably be coated with a suitable lacquer coating on the inside.

#### 4.2.3 **Solder**

The solder used shall have minimum tin content of 2 percent for machine soldering and 40 percent for hand soldering. The antimony content of the solder shall not exceed 6 percent of the tin content. The tin and antimony contents shall be determined by the methods specified in PS:4668/ISO:11949 or any other established instrumental or chemical method as of ISO.

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**4.2.4 Handle**

The handle shall be of galvanized steel wire conforming to PS:981-1994/ISO:2408 of not less than 3.0 mm in diameter. If agreed to between the purchaser and the supplier, phosphated or painted iron wire may also be used.

**TABLE – 1**  
**CHARACTERISTICS - TINPLATE CONTAINERS FOR**  
**GHEE, BANASPATI GHEE, COOKING / EDIBLE OILS, ETC.**

SL. NO.	Container Capacity Kgs (or Litre)	Thickness of Tinplate, mm (min).		Tin Coating g/m <sup>2</sup>	Temper	Finish
		Body	Ends (Top & Bottom)			
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	1.00	0.18 ± 0.02	0.19 ± 0.02	E. 2.8/2.8	T-3 Body T-3, T-4 Ends	Bright / Stone
2.	2.50	0.19 ± 0.02	0.2 ± 0.02	E. 2.8/2.8	T-3 Body T-3, T-4 Ends	Bright / Stone
3.	4.50	0.21 ± 0.02	0.22 ± 0.02	E. 2.8 / 2.8	T-3 Body T-3, T-4 Ends	Bright / Stone
4.	5.00	0.21 ± 0.01	0.22 ± 0.01	E. 2.8/2.8	T-3 Body T-3, T-4 Ends	Bright / Stone
5.	10.00	0.25 ± 0.02	0.26 ± 0.02	E. 2.8/2.8	T-3 Body T-3, T-4 Ends	Bright / Stone
6.	16.00	0.26 ± 0.02	0.27 ± 0.02	E. 2.8/2.8	T-3 Body T-3, T-4 Ends	Bright / Stone

NOTE :- These are preferred sizes. Manufacturers can interpolate the thickness of ETP (standard grade) for other sizes of Tin containers.

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## 5. **MANUFACTURE**

- 5.1 For tins up to 5 kg (or litre) capacity, the body shall be a single piece construction, soldered or welded. For 10 kg (or litre) tins, the body may be a single or two piece construction soldered or welded. The welded seam shall be coated with a suitable lacquer on the inside and outside and the soldered seam shall be coated with a suitable side stripe lacquer on the outside only.
- 5.2 For 16 kg (or litre) tins, all the four sides and the top and bottom end panels shall be stiffened by embossing or paneling. Bottom end paneling shall be the same as for the top end.
- 5.3 The top and bottom ends shall be made of one piece and joined to the body by either a single or double seam,. Single seam shall be fully soldered whereas double seam shall be lined with a non-toxic compound or fully soldered.

### 5.4 **Handle**

Handle shall be firmly secured to the top by soldering, spot welding or projection welding. The handle may be fixed parallel to the sides or in the diagonal position as required by the purchaser.

### 5.5 **Supply Condition**

The tins shall be supplied in the new and clean conditions from inside and outside and shall be free from all traces of rust and foreign materials.

### 5.6 **Internal, Finish**

For Banaspati Ghee, Cooking/Edible oils, the tins shall be plain inside. For Ghee, the tins and closure components shall be given a suitable lacquer coating inside. The welded side seam shall be coated internally with a suitable side stripe lacquer to prevent it from rusting.



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## **5.7 Outside Finish**

The outside surface of the body of tin containers may be given a protective or decorative coating or both, if required by the purchaser.

## **6. TESTING**

### **6.1 Pressure Test**

The tins up to 5 kg (or litre) capacity without its loose closure components shall be subjected to an air pressure of 15 kPa (0.15 kgf/cm<sup>2</sup>), minimum for 15 seconds. The tin container shall show no sign of leakage when immersed in water. The test shall be carried out as prescribed in (PS under process).

6.2 Each 16 kg (or litre) square tin container shall be subjected to an air pressure of 8 kPa (0.08 kgf/cm<sup>2</sup>), minimum for 15 seconds. The tin shall show no sign of leakage when immersed in water. The test shall be carried out by an appropriate ISO Standard.

### **6.3 SAMPLING**

6.3.1 Sampling shall be done by an appropriate ISO Standard.

## **7. MARKING**

7.1 The manufacturer's name initials or recognized trade-mark and year of manufacture may be clearly and indelibly marked or embossed on the tins, if required by the purchaser.

7.2 PSQCA Certification Marking.

The tin containers may also be marked with the Standard Mark of PSQCA, if manufactured under licence from the Authority

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