



उत्पाद मानुयल
प्रबलित चावल दाना — विशिष्टि
17782:2021 के अनुसार

**PRODUCT MANUAL FOR
FORTIFIED RICE KERNELS
ACCORDING TO IS 17782:2021**

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम 2018 की स्कीम-I के तहत यह उत्पाद मानुयल प्रमाणीकरणके प्रचलन में रीति और पारदर्शिता के सुसंगत सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेन्स/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग किया जा सकता है।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	उत्पाद Product	:	IS 17782:2021
	शीर्षक Title	:	प्रबलित चावल दाना — विशिष्टि FORTIFIED RICE KERNELS-SPECIFICATION
	संशोधन संख्या No. of Amendments	:	NIL
2.	नमूनाकरण दिशा निर्देश Sampling Guidelines:		
a)	कच्चा माल Raw material	:	Fortified rice kernels shall be prepared by using the ingredients in compliance to Clause 4.2 of IS 17782:2021.
b)	समूहिकरण दिशा निर्देश Grouping guidelines	:	Not Applicable
c)	नमूनेका परिमाण Sample Size	:	One Kilogram (1 kg) of sample for complete testing.
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	कृपया Annex-A देखें Please see Annex – A
4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection and Testing	:	कृपया Annex-B देखें Please see Annex – B

5.	एक दिन में संभावित परीक्षण Possible tests in a day:		
	i) Fortified Rice Kernels Shape, Size (length, breadth, and thickness), ii) Thousand kernels weight, iii) Bulk density, iv) True density, v) Colour, vi) Flavor, and Odour, vii) Iron, viii) Moisture content, ix) Broken fortified rice kernels, x) Damaged grains, xi) Discolored grains, xii) Chalky grains, xiii) Admixture, xiv) Cooking quality.		
6.	लाइसेन्स का कार्यक्षेत्र/Scope of the Licence:		
	IS 17782:2021 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेन्स निम्नलिखित कार्यक्षेत्रके लिए प्रदान किया जाता है “Licence is granted to use Standard Mark as per 17782:2021 with the following scope:		
	<table border="1"> <tr> <td>उत्पाद का नाम Name of the product</td><td>Fortified Rice Kernels</td></tr> </table>	उत्पाद का नाम Name of the product	Fortified Rice Kernels
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BUREAU OF INDIAN STANDARDS
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New Delhi – 110002

ANNEX – A
TO THE PRODUCT MANUAL FOR
FORTIFIED RICE KERNELS
ACCORDING TO IS 17782:2021

List of test equipment

Major test equipment required to test as per requirements of Indian Standard

Sr. No.	Tests used in with Clause Reference	Test Equipment/Chemicals/Glassware
1.	Shape , Size (length, Breadth, and Thickness) Thousand kernel weight (Clause 4.1.1)	Grain Scanner, Weighing balance capable of being read to the nearest 0.001g
2.	Bulk Density (Clause 4.1.1)	Bulk density apparatus. (As per ISO 7971-2) 1. Hand-operated measuring instrument. Apparatus consisting of a filling hopper, a measuring Container and the accessories necessary for their use is directly displayed. 2. Analytical balance, capable of being read to the nearest 0.1 g or 0.01 g depending on the volume of the container.
3.	Iron (Micronized Ferric Pyrophosphate or Sodium Iron (III) ethylenediamine tetraacetate trihydrate (Sodium ferredetate- NaFeEDTA); Table 1 (clauses 4.1.3, 4.1.5 and 8)	Spectrophotometer Wave length range 250-1100 nm, Conical flask 250 ml, glass rod, pipette 1 ml, 5 ml, 10 ml pipette pump, volumetric flask 100 ml, test tube 50ml, measuring cylinder 100ml Whatman filter paper, 41, Hydrochloric acid, ferric pyrophosphate standard, thioglycolic acid citric acid anhydrous, liquid ammonia acetone, acetic acid, O-phenanthroline, α,α dipyridyl solution, hydroxylamine hydrochloride, magnesium nitrate acetate buffer, sodium acetate.
4.	Folic Acid Table 1 (clauses 4.1.3, 4.1.5 and 8)	Incubator 28 to 40°C, Water bath, Centrifuge operating 3000 RPM, Mechanical shaker, Acid Hydrolyzed casein solution, Adenine-guanine-uracil, cysteine solution, salt solution II, Xanthine solution, Basel medium stock solution, other solution: Salt solution I, Polysorbate Solution 80, clarified skim milk , phosphate buffer solution, Isotonic salt solution, biotin solution vitamin solution, pyridoxamine solution phosphate buffer, culture and maintenance medium, culture medium, stock culture of test organism.
5.	Vitamin B ₁₂ (Cyanocobalamine or hydroxycobalamine) Table 1 (clauses 4.1.3, 4.1.5 and 8)	Demineralized water or distilled water, Glacial acetic acid, acetonitrile HPLC grade, Desiccant, anhydrous calcium sulphate, 8 mesh, Ethanol, formic acid, Potassium cyanide, 97%, Riboflavin, 98% to 102% purity, Sodium acetate anhydrous or sodium acetate tri-hydrate, taka –diastase,

		Triethylamine HPLC grade, Vitamin B₁₂ (cyanocobalamine), HPLC System, HPLC column: 4µm particle size ,250 mm X 94mm 5 µm, 300 mm X 8mm, HPLC Column Analytical C18, Oven 90°C to 110°C, pH meter with calibration buffer, analytical balance, Beakers, Bottle top dispenser, cylinders, Desiccator. Conical flasks, HPLC Vials 2 ml Capacity,125 ml capacity, filter paper Whatman 2V² or Equivalent, funnels, Gloves, Pipettor Variable Volume,100 µl to 1000 µl, Laboratory light shields, yellow or clear shield with a cut off at least 385 nm, Solid phase extraction (SPE) cartridges, Syringes, Syringe filters, vacuum manifold, volumetric pipets, volumetric flasks,
6.	Zinc as Zinc Oxide Table 2 (clauses 4.1.4, 4.1.5 and 8) <i>(These test equipments would be applicable, only for manufacturers who are fortifying Fortified Rice Kernels with this micronutrient)</i>	Apparatus: ICP emission Spectrometer controlled heating mental and acid scrubber, Glassware, distilled, deionized Water, Perchloric acid, standards, zinc oxide .
7.	Vitamin A (Retinyl Palmitate) Table 2 (clauses 4.1.4, 4.1.5 and 8) <i>(These test equipments would be applicable, only for manufacturers who are fortifying Fortified Rice Kernels with this micronutrient)</i>	HPLC System, HPLC Column 5 µm, 150 mm X 4, 6 mm, HPLC Column, Water bath, Centrifuge, UV-VIS spectrophotometer, Analytical balance, amber HPLC Vials 2 ml capacity, Disposable centrifuge tube 50ml capacity, Laboratory mechanical test tube shaker, Sonicator bath, one – mark volumetric flasks capacity 50 ml and 100 ml, Vacuum filtration apparatus, with 0.45µm nylon membrane. , laboratory glass bottles, capacity, 250 ml, 1 Liter and 2 liter. Pipettors and tips. Methyl-t-butyl ether, n-Hexane HPLC grade, Ethanol, HPLC grade, Methanol HPLC grade, Iso-octane HPLC grade, Papain≥3 U/mg, sigma 76220 or equivalent, Hydroquinone, Glacial Acetic Acid, anhydrous sodium Acetate, Dilute Hydrochloric Acid Solution, Retinyl Palmitate reference standard.
8.	Thiamine (Vitamin B₁) (Thiamine hydrochloride or Thiamine mononitrate) Table 2 (clauses 4.1.4, 4.1.5 and 8) <i>(These test equipments would be applicable, only for manufacturers who are fortifying Fortified Rice Kernels</i>	Apparatus: Photofluorometer filter maximum transmitted range filters with input filter maximum at ca 365 nm and output filter maximum ca 435 nm, chromatographic tubes, Reagents : Chromatographic resin, sodium acetate, Bromcresol green indicator, Enzyme solution, potassium chloride solution, Acid potassium chloride solution, potassium ferricyanide solution, Oxidizing reagent, Isobutyl alcohol, quinine sulphate stock solution, quinine sulphate standard solution, acidified.

	<i>with this micronutrient)</i>	
9.	Riboflavin (Vitamin B ₂) Riboflavin, or Riboflavin 5'-phosphate sodium Table 2 (clauses 4.1.4, 4.1.5 and 8) <i>(These test equipments would be applicable, only for manufacturers who are fortifying Fortified Rice Kernels with this micronutrient)</i>	Apparatus: Photofluorometer Input filter of narrow transmitted range with maximum ca 440 nm and output filter of narrow transmitted range with maximum ca 565 nm. Reagents: Riboflavin standard solution, Intermediate solution, working solution, sodium hydrosulfite, extraction solution
10	Niacin (Vitamin B ₃) Nicotinamide, or nicotinic acid Table 2 (clauses 4.1.4, 4.1.5 and 8) <i>(These test equipments would be applicable, only for manufacturers who are fortifying Fortified Rice Kernels with this micronutrient)</i>	Apparatus: Colorimeter wavelength range 430 nm to 470 nm, Reagent: Niacin standard solution, Working solution I, Working solution II, Dilute ammonium hydroxide, diluted hydrochloric acid, phosphate buffer solution, cyanogen bromide solution, 10% sulfanilic acid solution, 55% Sulfanilic acid solution.
11	Pyridoxine (Vitamin B ₆) Pyridoxine hydrochloride Table 2 (clauses 4.1.4, 4.1.5 and 8) <i>(These test equipments would be applicable, only for manufacturers who are fortifying Fortified Rice Kernels with this micronutrient)</i>	Microbiological Method: Vitamin solution I. Vitamin solution II. Salt solution I, Salt Solution II. Polysorbate 80, Citric acid solution, ammonium phosphate solution. Pyridoxine standard solution, working solution, citrate buffer solution, Basal medium stock solution test organism, agar culture medium, Liquid culture medium, Inoculum rinse, water bath, incubator, pH meter, Autoclave micro pipette, glass ware.
12	Moisture Content Table 3 (Clause 4.1.6 and 8)	Apparatus Analytical balance accuracy 0.001g, Grinding mill, Glass dish, Constant temperature oven, Desiccator
13	Broken fortified rice kernels Table 3 (Clause 4.1.6 and 8)	Apparatus Physical Balance, of 5 mg sensitivity Sieve: 4.00mm, 3.35 mm, 1.70mm, 1.00 mm Sieve shaker, enameled plate, A solid bottom pan. Small Scoop Size LXWXH, 105X100X25 & 75X65X25, Forceps, magnifying glass.
14	Foreign matter Table 3 (Clause 4.1.6 and 8)	Apparatus Physical Balance, of 1 mg sensitivity Sieve: 4.00mm, 3.35 mm, 1.70mm, 1.00 mm Sieve shaker, enameled plate, A solid bottom pan.

15	Damaged Grain Table 3 (Clause 4.1.6 and 8)	Apparatus Physical Balance, of 5 mg sensitivity Sieve: 4.00mm, 3.35 mm, 1.70mm, 1.00 mm Sieve shaker, enameled plate, A solid bottom pan. Small Scoop Size LXWXH, 105X100X25 & 75X65X25, Forceps, magnifying glass.
16	Discolored grains Table 3 (Clause 4.1.6 and 8)	Apparatus Physical Balance, of 5 mg sensitivity Sieve: 4.00mm, 3.35 mm, 1.70mm, 1.00 mm Sieve shaker, enameled plate, A solid bottom pan. Small Scoop Size LXWXH, 105X100X25 & 75X65X25, Forceps, magnifying glass.
17	Chalky Grains Table 3 (Clause 4.1.6 and 8)	Apparatus Physical Balance, of 5 mg sensitivity Sieve: 4.00mm, 3.35 mm, 1.70mm, 1.00 mm Sieve shaker, enameled plate, A solid bottom pan. Small Scoop Size LXWXH, 105X100X25 & 75X65X25, Forceps, magnifying glass.
18	Admixture Table (Clause 4.1.6 and 8)	Apparatus Physical Balance, of 5 mg sensitivity Sieve: 4.00mm, 3.35 mm, 1.70mm, 1.00 mm Sieve shaker, enameled plate, A solid bottom pan. Small Scoop Size LXWXH, 105X100X25 & 75X65X25, Forceps, magnifying glass.
19	Rice Flour Moisture Ref. 4.2 Ingredients. Test Method IS 4333 (Part 2)	Apparatus Analytical balance accuracy 0.001g, Grinding mill, Glass dish, Constant temperature oven, Desiccator
20	Rice Flour Particle Size Ref. 4.2 Ingredients. a	Apparatus Physical Balance, of 5 mg sensitivity Sieve: 150 Micron & 250 Micron
21	Cooking Quality Ref. 4.5 Annex. C	Apparatus Cooking Tubes, burner, Stop Clock, weighing balance.
22	Microbiological requirements Total Plate Count Table 4 (clause 4.7 and 8)	Apparatus Incubator (30°C±5°C), Oven, Autoclave , Colony Counter Micro Pipette, Laminar Air Flow, Water Bath, Hot plate, Refrigerator, Petri dishes, Reagent bottles, conical flask, test tube, filter paper, mixing grinder, sieve, measuring cylinder, pH meter, Reagent Standard media, Peptone water, Distilled water

23	Microbiological requirements Yeasts and Moulds Table 4 (clause 4.7 and 8)	Apparatus BOD Incubator (25°C±5°C), Oven, Autoclave , Colony Counter Micro Pipette, Laminar Air Flow, Water Bath, Hot plate, Refrigerator, Petri dishes, Reagent bottles, conical flask, test tube, filter paper, mixing grinder, sieve, measuring cylinder, pH meter, Reagent Standard media, Peptone water, Distilled water
24	Microbiological requirements Coliform Count Table 4 (clause 4.7 and 8)	Apparatus Incubator (30°C±5°C), Oven, Autoclave , Colony Counter Micro Pipette, Laminar Air Flow, Water Bath, Hot plate, Refrigerator, Petri dishes, Reagent bottles, conical flask, test tube, filter paper, mixing grinder, sieve, measuring cylinder, pH meter, Reagent Standard media, Peptone water, Distilled water

The above list is indicative only and may not be treated as exhaustive

ANNEX B
TO THE PRODUCT MANUAL
FOR FORTIFIED RICE KERNELS
ACCORDING TO IS 17782: 2021
Scheme of Inspection and Testing

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare and implement a calibration plan for the test equipments.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. PACKING AND MARKING – The Standard Mark, as given in the Schedule of the license, shall be printed/stenciled on each package, as the case may be, provided always that the material in each package to which this mark is thus applied, conform to every requirement of the specification.

3.1 Packing and marking shall be done as per the provision of the Indian Standard. In addition, the following details shall be mentioned on each package legibly and indelibly:

- a) BIS Licence No. CM/L.....
- b) BIS website details i.e –“For details of BIS certification please visit www.bis.gov.in”

4. CONTROL UNIT –For the purpose of this Scheme, the quantity of material blended with same composition in a day may constitute a batch or control unit.

5. LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standards and covered by the license should be marked with Standard Mark.

5.2 The manufacturers of Fortified Rice Kernels, shall ensure usage of BIS certified equipment/machinery as per IS 17853:2022(Equipment for Manufacture of Fortified Rice Kernel-Specification), within one year from the date of Grant of Licence.

5.3 The water being used for mixing of ingredients shall comply with IS 10500 (Drinking Water-Specification).

5.4 Fortified Rice Kernel (FRK) manufacturers shall obtain a Certificate of Analysis (CoA) for each batch of Vitamin and Mineral Premix (VMP), from the VMP manufacturer/supplier. The records of CoA shall be maintained.

5.5 On the basis of tests and analysis results, the decision regarding conformity or otherwise of a control unit shall be taken as follows:

5.5.1 A sample shall be taken at the packing stage from every control unit which shall be examined as per requirements of the specification for Shape, size (length, Breadth, and thickness) Thousand kernel weight and bulk density. Similarly, a sample shall be taken at the packing stage from every control unit which shall be examined visually for absence of Broken Fortified rice kernels, Foreign matter, damaged grains, Discoloured grains, chalky grains, admixture. If the samples do not conform to the specification in any of these requirements, the material manufactured, shall either be rejected or reprocessed and checked for these requirements & conformity of the product shall be ensured.

5.5.2 One sample shall be taken from every control unit for testing of moisture, Iron and cooking quality. In case of failure of any of these samples the material in the control unit be either rejected or reprocessed for rectification of the defect.

5.5.3 Testing for the requirement of Folic Acid and Vitamin B₁₂, shall be carried out for every batch of Vitamin and Mineral Premix (VMP) received.

5.5.4 One sample shall be tested for Total Plate Count and Coliform Count, Yeasts & Moulds in each Control unit. If the sample fail to conform to the requirements of Total Plate Count or Coliform Count and Yeasts and Moulds as given in the specification, the entire material in the control unit shall not be marked and shall be rejected, segregated and suitably destroyed.

5.5.5 One sample from every 15th control unit shall be tested for Other Optional Micronutrients like Zinc, Vitamin A, Thiamine, Riboflavin, Niacin, Pyridoxine In case of failure of the sample in any of these requirements, the control unit shall be considered unfit for the purposes of marking. The control unit may, however, be reprocessed and the defects rectified. Such reprocessed material when tested again shall conform to all the requirements of the specification before it is considered fit for marking. All subsequent control unit shall be tested for the requirements where failure has occurred till four consecutive control units tested conform to these requirements of the specification, whereupon the original frequency of testing may be resumed.

5.5.6 One sample shall be sent to an outside recognized laboratory once in a year for Pesticides/insecticides residues, poisonous metals, naturally occurring toxic substances and other contaminants (if any) if the source and proportion of raw materials do not change and also whenever, there is a change in the basic formula of the product.

6 HYGIENIC CONDITIONS Fortified Rice Kernels shall be manufactured, packed, stored in dry, cool, ventilated conditions, away from sunlight in premises maintained under hygienic conditions as per IS 2491 and following GMP/GHP protocols specified in Annex B.

7. REJECTION- Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1 (Levels of Control)
(Para 5 of Scheme of Inspection and Testing)

(1)			(2)	(3)		
Test Details			Test equipment requirement R:required (or) S: Sub-contracting permitted	Levels of Control		
Clause	Requirements	Test Method Cl. Ref.		No. of Samples	Frequency	Remarks
4.1	Description					
4.1	Shape, size (length, Breadth, and thickness) Thousand kernel weight	IS 4333 (Part 4)	R	One	Each Control Unit	See 5.5.1 of SIT
4.1	Bulk Density	IS 4333 (Part 3)	R	One	Each Control Unit	See 5.5.1 of SIT
Table 1 4.1.3, 4.1.5 and 8	Iron (Micronized Ferric Pyrophosphate or Sodium Iron (III) ethylenediamine tetraacetate trihydrate (Sodium feredetate-NaFeEDTA)	AOAC 944.02 or AACC 40-70.01 (total iron present in ferric form) by Atomic Absorption Spectrophotometry or AOAC 984.27 (using ICP Emission)	R	One	Each Control Unit	See 5.5.2 of SIT
Table 1 4.1.3,4.1.5 and 8	Folic Acid	AOAC 992.05 or EN 14131 (using microbiological extraction)	S#	One	Every batch of Vitamin and Mineral Premix (VMP) received	See 5.5.3 of SIT
Table 1 4.1.3,4.1.5 and 8	Vitamin B ₁₂ Cyanocobalamine or hydroxycobalamine *	IS 16640	S#	One	Every batch of Vitamin and Mineral Premix (VMP) received	See 5.5.3 of SIT

Table 2 4.1.4,4.1.5 and 8	Zinc as Zinc oxide	AOAC 984.27 (using ICP emission spectroscopy) or AACC 40-70.01(using atomic absorption)	S	One	Each 15 th Control unit	See 5.5.5 of SIT
Table 2 4.1.4,4.1.5 and 8	Vitamin A, as Retinyl palmitate	IS 16639	S	One	Each 15 th Control unit	See 5.5.5 of SIT
Table 2 4.1.4,4.1.5 and 8	Thiamine (Vitamin B ₁) (Thiamine hydrochloride or Thiamine mononitrate)	AOAC 2015 002 or AACC 86-80 01	S	One	Each 15 th Control unit	See 5.5.5 of SIT
Table 2 4.1.4,4.1.5 and 8	Riboflavin, as Riboflavin, or Riboflavin 8'-phosphate sodium	J AOAC int. 2009,680-687, AOAC 970.65	S	One	Each 15 th Control unit	See 5.5.5 of SIT
Table 2 4.1.4,4.1.5 and 8	Niacin, as Nicotinamide or nicotinic acid	AOAC 2015.003 or AACC 86-90.01, AOAC 961.14	S	One	Each 15 th Control unit	See 5.5.5 of SIT
Table 2 4.1.4,4.1.5 and 8	Pyridoxine (Vitamin B ₆) as Pyridoxine hydrochloride	EN 14164, AOAC 985.32	S	One	Each 15 th Control unit	See 5.5.5 of SIT
Table 3 4.1.6 and 8	Moisture Content percent by mass	IS 4333 (Part 2)	R	One	Each Control Unit	See 5.5.2 of SIT
Table 3 4.1.6 and 8	Broken Fortified Rice Kernels	IS 4333 (Part 1)	R	One	Each Control Unit	See 5.5.1 of SIT
Table 3 4.1.6 and 8	Foreign matter	IS 17782 (Annex A)	R	One	Each Control Unit	See 5.5.1 of SIT
Table 3 4.1.6 and 8	Damaged Grains	IS 4333 (Part 1)	R	One	Each Control Unit	See 5.5.1 of SIT
Table 3 4.1.6 and 8	Discolored grains	IS 4333 (Part 1)	R	One	Each Control Unit	See 5.5.1 of SIT

Table 3 4.1.6 and 8	Chalky grains	IS 4333 (Part 1)	R	One	Each Control Unit	See 5.5.1 of SIT
Table 3 4.1.6 and 8	Admixture	IS 4333 (Part 1)	R	One	Each Control Unit	See 5.5.1 of SIT
4.3	Pesticides/ Insecticides residue, poisonous metals, naturally occurring toxic substances and other if any contaminants *	FOOD Safety and Standards (Contaminants, Toxin and Residues Regulation, 2011)	S	One	Yearly	See 5.5.6 of SIT
4.5	Cooking Quality	IS 17782-Annex C	R	One	Each Control Unit	See 5.5.2 of SIT
Microbiological Requirements						
Table 4, 4.7 and 8	Total Plate Count	IS 5402 (Part 1)	R	One	Each Control Unit	See 5.5.4 of SIT
Table 4, 4.7 and 8	Yeasts and Moulds	IS 5403	R	One	Each Control Unit	See 5.5.4 of SIT
Table 4, 4.7 and 8	Coliform count	IS 5401 (Part 1)	R	One	Each Control Unit	See 5.5.4 of SIT

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control and submit his own levels of control in column 3 with proper justification for approval by BO Head.

Note-3: * Testing charges of outside lab, for these parameters would be borne by BIS during factory inspection, as the same has been included while consideration of marking fees.

Note 4 : # Sub-contracting is allowed till the manufacturer develops in-house testing facility.