



## दि प्लास्टिक एक्सपोर्ट प्रमोशन कौन्सिल

(भारत सरकार, वाणिज्य एवं उद्योग मंत्रालय, वाणिज्य विभाग द्वारा प्रायोजित)  
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दूरध्वनी : ९१-२२-२६,८३ ३९९१/९२ फ़ैक्स : ९१-२२-२६,८३ ३९९३  
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### THE PLASTICS EXPORT PROMOTION COUNCIL

(Sponsored by the Ministry of Commerce & Industry, Department of Commerce, Government of India)  
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All the Members of Plexconcil/COA Members

Dear Sir(s),

**Sub : Seeking inputs and suggestions for adopting standards**

As the Members are aware that Bureau of Indian Standard (BIS) has formed a committee for Policy on standards for Petrochemicals and Plastics Sector.

We request our members to give their inputs and suggestions for adopting standards which besides setting up a quality mechanism would help in increasing export of their products.

Please find attached herewith List of current IS standard for your reference & List of products for review.

Your inputs/suggestion should reach on or before 05.11.2016 to the undersigned at [bharti@plexconcil.org](mailto:bharti@plexconcil.org).

With best regards,  
Your's sincerely,

Bharti Parave  
Sr Executive

**PETROLEUM, COAL & RELATED PRODUCTS DEPARTMENT (PCD)**

Sectional Committee: Plastics, PCD 12

E-mail: [pcd12@gmail.com](mailto:pcd12@gmail.com)

<b>Thermoplastics and Cellular Plastics Material (including materials, moulded products, films, sheets and laminates Subcommittee, PCD 12:1</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	1843 : 1963	Nylon monofilaments
2	2076 : 1981	Unsupported flexible polyvinyl chloride sheeting
3	2267 : 1995	Polystyrene moulding and extrusion materials
4	2508 : 1984	Low density polyethylene films ( <i>Under Revision</i> )
5	2543 : 1995	Cellulose sectionondary acetate materials for moulding and extrusion
6	2828 : 2001	Plastics – Vocabulary ( <i>Under Revision</i> )
7	3395 : 1997	Low density polyethylene (LDPE) and liner low density polyethylene (LLDPE) materials for moulding and extrusions
8	3693 : 1966	Plastic spectacle frames
9	3730 : 1988	High density polyethylene bucket
10	4761 : 1968	Unsupported PVC rainwear
11	5210 : 1995	High impact polystyrene sheet
12	5322 : 1988	High density polyethylene wash-bowls
13	5378 : 1994	Polyethylene cane
14	6307 : 1985	Rigid PVC sheets
15	7166 : 1985	Cellulose sectionondary acetate flakes
16	7328 : 1992	High density polyethylene materials for moulding and extrusion
17	9766 : 1992	Flexible pvc compounds
18	10889 : 2004	High density polyethylene films
19	10951 : 2002	High density polyethylene films
20	12210 : 1987	Caprolactam
21	13193 : 1992	Polyalkylene terephthalates (PET and PBT) for moulding and extrusion
22	13217 : 1991	Thermoplastics fumigation covers
23	13463 : 1992	Polyamide (nylon 6) material for moulding and extrusion
24	13464: 1992	Polyamide (nylon 66) materials for moulding and extrusion
25	13959 : 1994	Polypropylene sutli
26	13960 : 1994	Thermoplastic strapping
27	14434 : 1998	Polycarbonate moulding and extrusion materials
28	14443 : 1997	Polycarbonate sheets
29	14500 : 1998	Linear low density polyethylene (LLDPE) films
30	14611 : 2016	Multilayered cross laminated sheets/tarpaulins/covers/ agricultural films - specification ( <i>first revision</i> )
31	14635 : 1999	Polytetrafluoroethylene (PTFE) materials for moulding and extrusion
32	14643 : 1999	UnsinteredPolytetrafluoroethylene (PTFE) tape for thread sealing applications
33	14753 : 1999	Polymethyl methacrylate (PMMA) (acrylic) sheets
34	14995 : 2001	Stretch cling films

35	15226 : 2002	Rigid polyvinyl chloride (PVC) compounds
	15559 : 2004	Polyester strapping
36	16459 : 2016	Plastics - Film and sheeting - Cast polypropylene PP films
37	16460 : 2016	Plastics - Film and sheeting - Biaxially oriented polypropylene PP films
<b>Thermosetting (including materials, laminates and sheets) Subcommittee, PCD 12:2</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	1300 : 1994	Phenolic moulding materials
2	1461 : 1984	Plastic buttons (Thermosetting)
3	2036 : 1995	Phenolic laminated sheets
4	3389 : 1994	Urea-formaldehyde moulding materials
5	3669 : 1994	Melamine-formaldehyde moulding materials
6	6746 : 1994	Unsaturated polyester resin systems
7	7569 : 1987	Cast acrylic sheets for use in luminaires
8	9220 : 1979	Tableware made of melamine plastics
9	9848 : 1987	Briefcases, plastic body
10	10734 : 1983	Case, vanity, moulded body
11	12087 : 1987	Suitcase for air and submarine crew
12	14752 : 2000	Melamine formaldehyde resins to improve wet strength of paper
<b>Plastics in contact with Foodstuff and pharmaceuticals Subcommittee, PCD 12:4</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	9833 : 2014	List of pigments and colourants for use in plastics in contact with foodstuffs, pharmaceuticals and drinking water ( <i>Under Revision</i> )
2	10141 : 2001	Positive list of constituents of polyethylene in contact with Foodstuffs, pharmaceuticals and drinking water ( <i>Under Revision</i> )
3	10142 : 1999	Polystyrene (Crystal and High Impact) for its safe use in contact with foodstuffs, pharmaceuticals and drinking water specification
4	10146 : 1982	Polyethylene for its safe use in contact with foodstuffs, pharmaceuticals and drinking water
5	10148 : 1982	Positive list of constituents of polyvinyl chloride and its copolymers for safe use in contact with foodstuffs, pharmaceuticals and drinking water
6	10149 : 1982	Positive list of constituent of styrene polymers in contact with foodstuffs, pharmaceuticals and drinking water
7	10151 : 1982	Polyvinyl chloride (PVC) and its copolymers for its safe use in contact with foodstuffs, pharmaceuticals and drinking water ( <i>Under Revision</i> )
8	10171 : 1999	Guide on suitability of plastics for food packaging – PCD 21 Standard
9	10909 : 2001	Positive list of constituents of polypropylene and its copolymers in contact with foodstuffs, pharmaceuticals and drinking water ( <i>Under Revision</i> )
10	10910 : 1984	Polypropylene and its copolymers for its safe use in contact with foodstuffs, pharmaceuticals and drinking water
11	11434 : 1985	Ionomer resins for its safe use in contact with foodstuffs, pharmaceutical and drinking water
12	11435 : 1985	Positive list of constituents of ionomer resins for its safe use in contact with foodstuffs, pharmaceuticals and drinking water
13	11704 : 1986	Ethylene/acrylic acid (EAA) copolymers for their safe use in contact

		with foodstuffs, pharmaceuticals and drinking water
14	11705 : 1986	Positive list of constituents of ethylene/acrylic acid (EAA) copolymers for their safe use in contact with foodstuffs, pharmaceuticals and drinking water
15	12229 : 1987	Positive list of constituents of polyalkylene terephthalates (PET & PBT) for their safe use in contact with foodstuffs, pharmaceuticals and drinking water ( <i>Under Revision</i> )
16	12247 : 1988	Nylon-6 polymer for its safe use in contact with foodstuffs pharmaceuticals and drinking water
17	12248 : 1988	Positive list of constituents of nylon-6 polymer for its safe use in contact with foodstuffs, pharmaceuticals and drinking water
18	12252 : 1987	Polyalkylene terephthalates (PET & PBT) for their safe use in contact with foodstuffs, pharmaceuticals and drinking water ( <i>Under Revision</i> )
19	13449 : 1992	Positive list of constituents of ethylene vinyl acetate (EVA) copolymers in contact with foodstuffs, pharmaceuticals and drinking water
20	13576 : 1992	Ethylene menthacrylic acid (EMAA) copolymers and terpolymers for its safe use in contact with foodstuffs, pharmaceuticals and drinking water
21	13577 : 1992	Positive list of constituents of ethylene methacrylic acid (EMAA) copolymers and terpolymers in contact with foodstuffs, pharmaceuticals and drinking water
22	13601 : 1993	Ethylene vinyl acetate (EVA) copolymers for its safe use in contact with foodstuffs, pharmaceuticals and drinking water
23	14971 : 2001	Polycarbonate resins for its safe use in contact with foodstuffs, pharmaceuticals and drinking water
24	14972 : 2001	Positive list of constituents of polycarbonate resins in contact with foodstuffs, pharmaceuticals and drinking water
25	14996 : 2001	Positive list of constituents of modified poly (Phenylene Oxide) (PPO) in contact with foodstuffs, pharmaceuticals and drinking water
26	14997 : 2001	Modified poly (Phenylene Oxide) (PPO) resins for its safe use in contact with foodstuffs, pharmaceuticals and drinking water
27	14998 : 2001	Positive list of constituents of melamine-formaldehyde resins in contact with foodstuffs, pharmaceuticals and drinking water
28	14999 : 2001	Melamine-Formaldehyde resins for its safe use in contact with foodstuffs, pharmaceuticals and drinking water - Specification
<b>Composites and Reinforcement Fibers Subcommittee, PCD 12:5</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	2046 : 1995	decorative thermosetting synthetic resin bonded laminated sheets ( <i>Under Revision</i> )
2	11273 : 1992	Woven roving fabrics of 'E' glass fibre
3	11320 : 1997	Glass fibrerovings for the reinforcement of polyester and of epoxide resin systems
4	11551 : 1996	Glass fibre chopped strand mat for the reinforcement of epoxy, phenolic and polyester resin systems
5	13410 : 1992	Glass reinforced polyester sheet moulding compounds (SMC)
6	13411 : 1992	Glass reinforced polyester dough moulding compounds (DMC)
7	14425 : 1997	Guide for manufacture of glass reinforced polyester resin mouldings
<b>Compostable and Biodegradable Plastics, PCD 12:6</b>		

SI No.	IS No.	Title
1	14851 : 1999	Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium - Method by measuring the oxygen demand in a closed respirometer – PCD 27 Standard
2	14852 : 1999	Determination of ultimate aerobic diodegradability of plastic materials in and aqueous medium - Method by analysis of evolved carbon dioxide – PCD 27 Standard
3	14853 : 2005	Determination of ultimate aerobic diodegradability of plastic materials in and aqueous medium - Method by measurement of biogas production – PCD 27 Standard
4	14855 (Part 1) : 2005	Determination of ultimate aerobic diodegradability of plastic materials under controlled compositing conditions - Method by analysis of evolved carbon dioxide: Part 1 general method ( <i>Under Revision</i> ) – PCD 27 Standard
5	14855 (Part 2) : 2007	Determination of ultimate aerobic diodegradability of plastic materials under controlled compositing conditions - Method by analysis of evolved carbon dioxide: Part 1 gravimetric measurement of carbon dioxide evolved in laboratory - Scale test – PCD 27 Standard
6	15985 : 2004	Plastics - Determination of the ultimate anaerobic biodegradation and disintegration under high-solids anaerobic-degistion conditions - Method by analysis of releases biogas ( <i>Under Revision</i> ) – PCD 27 Standard
7	16459 : 2014	Water soluble film - Specification
8	16929 : 2002	Plastics - Determination of the degree of disintegration of plastic materials under defined composting conditions in a pilot-Scale test – PCD 27 Standard
9	17088 : 2012	Specifications for Compostable Plastics
10	17556 : 2003	Plastics - Determination of the ultimate aerobic biodegradability in soil by measuring the oxygen demand in a respirometer or the amount of carbon dioxide evolved – PCD 27 Standard
11	20200 : 2004	Plastics - Determination of disintegration of plastic materials under simulated compositing conditions in a laboratory-scale test – PCD 27 Standard
<b>Recycling of Plastics Subcommittee, PCD 12:7</b>		
SI No.	IS No.	Title
1	14534 : 2016	Plastics - Guidelines for the recovery and recycling of plastics waste ( <i>first revision</i> )
2	14535 : 1998	Recycled plastics for the manufacturing of products - Designation
<b>New Standards under Formulation</b>		
SI No.	Document No.	Title
1	PCD 12 (10455)	Plastics Post-consumer polyethylene terephthalate PET bottle recyclates: Part 1 Designation system and basis for specifications
2	PCD 12 (10460)	Plastics Post-consumer polyethylene terephthalate PET bottle recyclates: Part 2 Preparation of test specimens and determination of properties
3	PCD 12 (10088)	Plastics mixtures of polypropylene pp and polyethylene perecyclate derived from pp and pe used for flexible and rigid consumer

		packaging: Part 1 Designation system and basis for specification
4	PCD 12 (10095)	Plastics mixtures of polypropylene pp and polyethylene perecyclate derived from pp and pe used for flexible and rigid consumer packaging: Part 2 Preparation of test specimens and determination of properties
<b>Additives including plasticizers Subcommittee, PCD 12:8</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1.	14421 : 1997	Plasticizer esters
2.	14426 : 1997	Chlorinated paraffins (CP)
3.	15621 : 2005	Terabromobisphenol-A
4.	15623 : 2005	Melamine (2, 4, 6 triamino 1, 3, 5 triazine)
<b>Adhesives Subcommittee, PCD 12:9</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	2249 : 1984	Adhesives (Liquid) for leather-beltings
2	2257 : 1989	Paper adhesives, liquid gum and office paste type-Specification
3	2560 : 1979	Rubber-based adhesives for tubes, non-curing
4	2561 : 1963	Rubber-based adhesives for the automobile industry
5	2562 : 1979	Rubber-based adhesives for tyres and tubes, curing
6	2886 : 1991	Labelling paste for paper labels
7	3434 : 1984	Glossary of terms for adhesives and pressure sensitive adhesive tapes
8	3447 : 1993	Shellac jointing compound
9	3687 : 1987	Pressure sensitive adhesive cloth tapes
10	3988 : 1981	Guar gum
11	4185 : 1989	Adhesive paper tapes
12	4663 : 1968	Permanent rubber-based adhesives for footwear industry
13	6367 : 1971	Dextrin for adhesive industry
14	7393 : 1974	Adhesive, bitumen emulsion
15	7395 : 1989	Gum ghatti
16	7437 : 1974	Methods of sampling and test for vegetable adhesives
17	8402 : 1987	Methods of sampling and test for pressure sensitive adhesive tapes
18	9827 : 1981	Shoe adhesive, natural rubber latex Base
19	9843 : 1991	Code of practice for use of adhesives for packaging
20	10815 : 1984	Code of practice for the application of adhesives in footwear industry
21	11988 : 1986	Hot seal patches
22	12830 : 1989	Rubber based adhesives for fixing pvc tiles to cement
23	12994 : 1990	Epoxy adhesives, room temperature curing general purpose
24	13055 : 1991	Methods of sampling and test for anaerobic adhesives and sealants
25	13199 : 1991	Adhesives-guidelines for surface preparation for adhesive bonding
26	13254 : 1992	Animal glue for match industry
27	13255 : 1992	Adhesive-liquid-for use on high speed flap gumming and embossed envelope machines
28	13262 : 1992	Pressure sensitive adhesive tapes with plastic base
29	13653 : 1992	Anaerobic jointing compounds for use in liquefied petroleum gas appliances and installations
30	14182 : 1994	Solvent cement for use with unplasticized polyvinylchloride plastic pipe and fittings

31	14643 : 1999	Unsintered polytetrafluoroethylene (PTFE) tape for thread sealing applications
32	15225 : 2002	Chlorinated polyvinyl chloride compounds used for pipes and fittings
<b>Safety of Toys Subcommittee, PCD 12:10</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	9873 (Part 1) : 2012	Safety requirements for toys: Part 1 Safety aspects related to mechanical and physical properties ( <i>Under Revision</i> )
2	9873 (Part 2) : 2012	Safety of toys: Part 2 flammability ( <i>Under Revision</i> )
3	9873 : (Part 3) : 1999	Safety Requirements for toys: Part 3 migration of certain elements ( <i>Under Revision</i> )
<b>New Standards under Formulation</b>		
<b>SI No.</b>	<b>Document No.</b>	<b>Title</b>
1	PCD 12 (10581)	Safety of toys: Part 4 Swings slides and similar activity toys for indoor and outdoor family domestic use [IS 9873 (part 4)]
2	PCD 12 (10583)	Safety of toys: Part 5 Determination of total concentration of certain elements in toys [IS 9873 (Part 5)]
3	PCD 12 (10592)	Safety of toys: Part 8 age Determination guidelines [IS 9873 (Part 8)]
4	PCD 12 (10457)	Safety of toys: Part 9 Certain phthalates esters in toys and childrens products [IS 9873( Part 9)]
5	PCD 12 (10458)	Safety of toys: Part 6 Determination of certain phthalate esters in toys and childrens products [IS 9873 (Part 6)]

**Sectional Committee: Plastics Packaging, PCD 21** E-mail: [pcd21@gmail.com](mailto:pcd21@gmail.com)

<b>Methods of Test</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	2798 : 1998	Methods of test for plastics containers
2	8747 : 1977	Methods of tests for environmental stress-crack resistance of blow-moulded polyethylene containers
<b>Terminology</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	7394 : 1984	Plastics containers for reserve fuel
2	11343 : 1994	Packaging - Sacks made from thermoplastic films - Vocabulary
<b>Code of Practice</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	6604 : 1991	Code for packaging of solid pesticides (up to 1000 g)
2	7792 : 1975	Code of practice for handling plastics containers
<b>Others</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	6312 : 1994	Polyethylene containers for the transport of materials
2	7019 : 1998	Glossary of terms in plastics and flexible packaging, excluding paper

3	7408 (Part 1) : 2000	Blow moulded polyolefin containers: Part 1 up to 5 litres capacity
4	7408 (Part 2) : 2000	Blow moulded polyolefin containers: Part 2 over 5 litres, up to and including 60 litres capacity
5	7408 (Part 3) : 2000	Blow moulded polyolefin containers: Part 3 closed head containers over 60 litres, up to and including 250 litres capacity
6	7803 (Part 1) : 1975	Polyethylene containers for pharmaceutical use: Part I other than parenteral and ophthalmic preparations
7	7803 (Part 2) : 1975	Plastic containers for pharmaceutical use Part II parenteral and ophthalmic preparations
8	7959 : 1987	Polyethylene containers for foam compounds
9	8688 : 1988	Plastics bottles for potable water
10	9738 : 2003	Polyethylene bags for general purposes
11	9754 : 1981	High density polyethylene containers for packing of liquid pesticides (up to 1 litre capacity)
12	10840 : 1994	Blow moulded HDPE containers for packing of vanaspati
13	11342 : 1994	Packaging - Sacks made from thermoplastic films - Description and method of measurement
14	11352 : 1998	Flexible pouches for the packing of vanaspati upto 5 kg or 5 litres ( <i>Under Revision</i> )
15	11584 : 1986	High density polyethylene (HDPE) crates for milk satchets ( <i>Under Revision</i> )
16	11805 : 2007	Polyethylene pouches for packaging liquid milk
17	12007 : 1987	Laminated collapsible tubes
18	12395 : 1988	Disposable trash bags of plastics
19	12512 : 1989	HDPE Containers - for liquid pesticides - Capacity over 1 and up to 5 litres
20	12724 : 2004	Flexible pouches for packing of refined edible oils up to 5 kg or 5 litre
21	12787 : 1989	Polyethylene air bubble film
22	12883 : 1989	Polyvinyl chloride (PVC) bottles for edible oils
23	12887 : 1989	Polyethylene terephthalate (PET) bottles for packaging of edible oils
24	13123 : 2000	Packing of liquid pesticides - Polyethylene terephthalate (PET) bottles (up to 5 litres capacity)
25	13289 : 1993	Polypropylene/impact copolymer (PPCP) crates for milk satchets ( <i>Under Revision</i> )
26	14129 : 1994	Flexible packaging materials for the packing of vanaspati in 10 kg and 15 kg packs
27	14537 : 1998	Polyethylene terephthalate (PET) bottles for packaging of alcoholic liquors
28	14625 : 2015	Plastics feeding bottles (First Revision) ( <i>Amendment in process</i> )
29	14636 : 1998	Flexible packaging materials for packaging of edible oils, ghee and vanaspati
30	14764 : 2000	Polyethylene terephthalate (PET) containers for packaging of vanaspati
31	15410 : 2003	Containers for packaging of natural mineral water and packaged drinking water
32	15473 : 2004	Blow moulded HDPE containers for packaging of edible oils
33	15532 : 2004	Plastics crates for fruits and vegetables



34	15609 : 2005	Polyethylene flexible pouches for the packing of natural mineral water and packaged drinking water
35	15749 : 2007	Fluorinated HDPE bottles and containers

Sectional Committee: Methods of Test for Plastics, PCD 27 E-mail: [pcd27@gmail.com](mailto:pcd27@gmail.com)

Methods of Test for Plastics		
SI No.	IS No.	Title
1	867 : 1963	Methods of test for phenolic moulding materials ( <i>Under Revision</i> )
2	1998 : 1962	Methods of test for thermosetting synthetic resin bonded laminated sheets
3	2221 : 1962	Methods of test for aminoplastic moulding materials
4	2530 : 1963	Methods of test for polyethylene moulding materials and polyethylene compounds
5	4669 : 1968	Methods of test for polyvinyl chloride resins
6	7188 : 1974	Methods of test for cellulose acetate flakes
7	8543 (Part 1/ Section 1) : 1978	Methods of testing plastics: Part 1 characterization of polymer structure and size: Section 1 Determination of molecular mass from viscosity
8	8543 (Part 13 : Section 1) 1977	Methods of testing plastics: Part 13 test for specific products - Section 1 : buttons (Thermosetting)
9	9591 : 1996	Plasticizer esters - Methods of sampling and tests
10	9845 : 1998	Determination of overall migration of constituents of plastics materials and articles intended to come in contact with foodstuffs - Method of analysis
11	13360 (Part 1) : 1992	Plastics - Methods of testing : Part 1 introduction
12	13360 (Part 2/ Section 1) : 1992	Plastics - Methods of Test: Part 2 Sampling and preparation of test specimens: Section 1 Compression moulding test specimens of thermoplastics materials
13	13360 (Part 2/ Section 2) : 2013	Plastics - Methods of testing: Part 2 Sampling and preparation of test specimens: Section 2 Compression moulding of test specimens of thermosetting materials
14	13360 (Part 2/ Section 3) : 2000	Plastics - Methods of testing: Part 2 Sampling and preparation of test specimens - Section 3 : Injection moulding of test specimens of thermoplastic materials - General Principles ( <i>Under Revision</i> )
15	13360 (Part 2/ Section 4) : 1999	Plastics - Methods of testing: Part 2 Sampling and preparation of test specimens: section 4 Preparation of test specimens by machining
16	13360 (Part 2/ Section 5) : 2013	Plastics - Methods of testing: Part 2 Sampling and preparation of test specimens: Section 5 Multipurpose test specimens ( <i>Under Revision</i> )
17	13360 (Part 2/ Section 7) : 2000	Plastics - Methods of testing: Part 2 Sampling and preparation of test : - Section 7 Injection moulding of test of Thermoplastic materials - Small plates ( <i>Under Revision</i> )
18	13360 (Part 2/ Section 9) : 2000	Plastics - Methods of testing: Part 2 Sampling and preparation of test : Section 9 Injection moulding of test of thermoplastic materials - Small tensile bars
19	13360 (Part 2/ Section 10)	Plastics - Methods of testing : Part 2 Sampling and preparation of test specimens: Section 10 Injection moulding of test of thermosetting

	:2006	powder moulding compounds (PMCS) - General principles and moulding of multipurpose test
20	13360 (Part 2/ Section 11) : 2006	Plastics - Methods of testing: Part 2 Sampling and preparation of test specimens: Section 11 Injection moulding of test of thermosetting powder moulding compounds (PMCS) - Small principles and moulding of multipurpose test
21	13360 (Part 3/ Section 1) : 1995	Plastics - Methods of testing: Part 3 Physical and dimensional properties: Section 1 Determination of density and relative density of non-cellular plastics
22	13360 (Part 3/ Section 2) : 1997	Plastics - Methods of testing: Part 3 Physical and dimensional properties: Section 2 Determination of apparent density of material that can be poured from a specified funnel
23	13360 (Part 3/ Section 3) : 1997	Plastics - Methods of testing: Part 3 Physical and dimensional properties section 3 Determination of apparent density of moulding material that can not be poured from a specified funnel [Superseding IS 8543
24	13360 (Part 3/ Section 4) : 1995	Plastics - Methods of testing: Part 3 Physical and dimensional properties: Section 4 Determination of bulk sectiontor of moulding materials
25	13360 (Part 3/ Section 5) : 2013	Plastics - Methods of testing: Part 3 Physical and dimensional properties: Section 5 Thermosetting moulding materials - Determination of shrinkage
26	13360 (Part 3/ Section 6) : 2000	Plastics - Methods of testing: Part 3 Physical and dimensional properties: Section 6 Film and sheeting - Determination of average thickness of a sample, and average thickness
27	13360 (Part 3/ Section 7) : 1999	Plastics - Methods of testing: Part 3 Physical and dimensional properties: Section 7 Liquid resins - Determination of density by the pyknometer method
28	13360 (Part 3/ Section 9) : 1999	Plastics - Methods of testing: part 3 : Physical and dimensional properties: Section 9 : Determination of moisture in plastics by coulometric regeneration of phosphorus pentoxide
29	13360 (Part 3/ Section 10) : 2016	Plastics - Methods of testing: part 3 Physical and dimensional properties: Section 10 Determination of density of non-cellular plastics - Immersion method, liquid pyknometer method and titration method
30	13360 (Part 3/ Section 11) : 2016	Plastics - Methods of testing: Part 3 Physical and dimensional properties : Section 11 Determination of density of non-cellular plastics density gradient column method
31	13360 (Part 3/ Section 12) : 2016	Plastics - Methods of testing: Part 3 Physical and dimensional properties: Section 12 Determination of density of non-cellular plastics gas pyknometer method
32	13360 (Part 4/ Section 1) : 2000	Plastics - Methods of testing: Part 4 Rheological properties: Section 1 Determination of the melt mass-flow rate (MFR) and the melt volume-flow rate (MVR) of thermoplastics ( <i>Under Revision</i> )
33	13360 (Part 4/ Section 2) : 1999	Plastics - Methods of testing: Part 4 Rheological Properties: Section 2 Cup flow of phenolic and alkyd moulding materials
34	13360 (Part 4/ Section 3) : 2004	Plastics - Methods of testing : Part 4 Rheological properties: Section 3 Determination of spiral flow of low-pressure thermosetting moulding compounds
35	13360 (Part 4/ Section 4) : 1999	Plastics - Methods of testing: Part 4 Rheological properties: Section 4 Determination of properties of polymeric materials by means of a

		capillary rheometer
36	13360 (Part 4/ Section 5) : 2000	Plastics - Methods of testing: Part 4 Rheological properties: Section 5 Determination of the fluidity of plastics using capillary and slit-die rheometers
37	13360 (Part 5/ Section 1) : 1996	Plastics - Methods of testing: Part 5 Mechanical Properties: Section 1 Determination of tensile properties - General principles ( <i>Under Revision</i> )
38	13360 (Part 5/ Section 2) : 1996	Plastics - Methods of testing Part 5 : Mechanical properties: Section 2 Determination of tensile properties - Test conditions for moulding and extrusion plastics ( <i>Under Revision</i> )
39	13360 (Part 5/ Section 3) : 1999	Plastics - Methods of testing : Part 5 Mechanical properties: Section 3 Determination of tensile properties - Test Conditions for films and sheets
40	13360 (Part 5/ Section 4) : 2013	Plastics - Methods of testing: Part 5 Mechanical properties: Section 4 Determination of izod impact strength ( <i>Under Revision</i> )
41	13360 (Part 5/ Section 5) : 1996	Plastics - Methods of testing: Part 5 Mechanical Properties: Section 5 Determination of Charpy Impact Strength ( <i>Under Revision</i> )
42	13360 (Part 5/ Section 6) : 1999	Plastics - Methods of testing: Part 5: Mechanical properties: Section 6 Determination of impact resistance by the free-falling dart method - Staircase methods
43	13360 (Part 5/ Section 7) : 1996	Plastics - Methods of testing: Part 5 Mechanical properties: Section 7 Determination of flexural properties ( <i>Under Revision</i> )
44	13360 (Part 5/ Section 8) : 2013	Plastics - Methods of testing: Part 5 Mechanical properties: Section 8 Determination of compressive properties
45	13360 (Part 5/ Section 10) : 1996	Plastics - Methods of testing: Part 5 Mechanical properties: Section 10 Determination of tear resistance of plastics films and sheeting - Trouser tear method
46	13360 (Part 5/ Section 11) : 2013	Plastics - Methods of testing: Part 5 Mechanical properties: Section 11 Determination of indentation hardness of plastics by means of durometer (Shore Hardness)
47	13360 (Part 5/ Section 12) : 1992	Plastics - Methods of testing: Part 5 Mechanical properties: Section 12 Determination of ball indentation hardness
48	13360 (Part 5/ Section 13) : 1992	Plastics - Methods of testing: Part 5 Mechanical properties: Section 13 Determination of rockwell hardness
49	13360 (Part 5/ Section 14) : 2001	Plastics - Methods of testing: Part 5 Mechanical properties: Section 14 Determination of indentation hardness of rigid plastic by means of barcolimpessor
50	13360 (Part 5/ Section 19) : 1999	Plastics - Methods of testing: Part 5 Mechanical Properties: Section 19 Determination of resistance of plastic materials to abrasion
51	13360 (Part 5/ Section 22) : 1999	Plastics - Methods of testing: Part 5 Mechanical Properties: Section 22 Determination of resistance to wear by abrasive wheels ( <i>Under Revision</i> )
52	13360 (Part 5/ Section 23) : 1996	Plastics - Methods of testing: Part 5 Mechanical properties: Section 23 Determination of tear resistance of plastics film and sheeting - Elmendorf method
53	13360 (Part 5/ Section 24)	Plastics - Methods of testing: Part 5 Mechanical properties: Section 24 Determination impact resistance by the free falling dart method -

	:1999	Instrumental puncture test
54	13360 (Part 5/ Section 25) : 2004	Plastic - Methods of testing: Part 5 Mechanical Properties: Section 25 Determination of tensile properties - Test conditions for isotropic and orthotropic fibre - Reinforced plastic composites
55	13360 (Part 5/ Section 26) : 2004	Plastics - Methods of testing: Part 5 Mechanical properties: Section 26 Determination of tensile properties - Test conditions for unidirectional fibre-reinforced plastic composite ( <i>Under Revision</i> )
56	13360 (Part 6/ Section 1) : 1999	Plastics - Methods of testing: Part 6 Thermal properties: Section 1 Determination of vicat softening temperature of thermoplastic materials ( <i>Under Revision</i> )
57	13360 (Part 6/ Section 3) : 2013	Plastics - Methods of testing: Part 6 Thermal properties: Section 3 Determination of temperature of deflection under load - General test method
58	13360 (Part 6/ Section 4) : 1997	Plastics - Methods of testing: Part 6 Thermal properties: Section 4 Determination of the burning behaviour of horizontal and vertical in contact with a small-flame ignition source
59	13360 (Part 6/ Section 5): 2001	Plastics - Methods of testing: Part 6 Thermal properties: Section 5 Determination of flammability of plastic materials for parts and devices in appliances
60	13360 (Part 6/ Section 6) : 2001	Plastics - Methods of testing: Part 6 Thermal properties: Section 6 Flammability by oxygen index - Guidance
61	13360 (Part 6/ Section 9): 2001	Plastics - Methods of Testing: Part 6 Thermal Properties: Section 9 Determination of Density of Smoke from the Burning or Decomposition of Plastics
62	13360 (Part 6/ Section 10) : 2013	Plastics - Methods of testing: Part 6 Thermal properties: Section 10 Determination of melting behaviour (Melting Temperature or Melting Range) of semi-crystalline polymers by capillary tube and polarizing-microscope methods
63	13360 (Part 6/ Section 11) : 2004	Plastics - Methods of testing: Part 6 Thermal properties: Section 11 Determination of the brittleness temperature by impact
64	13360 (Part 6/ Section 14): 2004	Plastics - Methods of testing: Part 6 Thermal properties: Section 14 Standard Test method for coefficient of linear thermal expansion of plastics between -30Â°C and 30Â°C with a vitreous silica dilatometer
65	13360 (Part 6/ Section 17) : 2013	Plastics - Methods of testing: Part 6 Thermal properties: Section 17 Determination of temperature of deflection under load - Plastics and ebonite ( <i>Under Revision</i> )
66	13360 (Part 6/ Section 18) : 2013	Plastics - Methods of testing: Part 6 Thermal properties: Section 18 Determination of temperature of deflection under load - high strength thermosetting laminates and long-fibre - Reinforced plastics
67	13360 (Part 6/ Section 19) : 2001	Plastics - Methods of testing: Part 6 Thermal properties: Section 19 Flammability by oxygen index - Ambient temperature test
68	13360 (Part 6/ Section 20) : 2001	Plastics - Methods of testing: Part 6 Thermal Properties: Section 20 Flammability by oxygen index - Elevated temperature test
69	13360 (Part 6/ Section 21) : 2004	Plastics - Methods of testing: Part 6 Thermal properties: Section 21 Determination of ignition temperature using a hot-air furnace ( <i>Under Revision</i> )
70	13360 (Part 6/	Plastics - Methods of testing: Part 6 Thermal properties: Section 22

	Section 22) : 2006	Determination of time-temperature limits after prolonged exposure to heat
71	13360 (Part 6/ Section 23) : 2006	Plastics - Methods of testing: Part 6 Thermal properties: Section 23 Determination of burning behaviour of thin flexible vertical in contact with small-flame ignition source
72	13360 (Part 7/ Section 1) : 1996	Plastics - Methods of testing: Part 7 Electrical properties: Section 1 Measurement of resistivity of conductive plastics
73	13360 (Part 8/ Section 1) : 1997	Plastics - Methods of testing: Part 8 Permanence/chemical properties: Section 1 Determination of water absorption ( <i>Under Revision</i> )
74	13360 (Part 8/ Section 3) : 1997	Plastics - Methods of testing: Part 8 Permanence/Chemical Properties: Section 3 Determination of the effects of liquid chemicals, including water
75	13360 (Part 8/ Section 4) : 1997	Plastics - Methods of testing: Part 8 Permanence/chemical properties: Section 4 Determination of loss of plasticizers - Activated carbon method
76	13360 (Part 8/ Section 5) : 1997	Plastics - Methods of testing: Part 8 Permanence/chemical properties: Section 5 Determination of migration of plasticizers
77	13360 (Part 8/ Section 6) : 1997	Plastics - Methods of testing: Part 8 Permanence/chemical properties: Section 6 Determination of gas transmission rate of films and thin sheets under atmospheric pressure - Manometric method
78	13360 (Part 8/ Section 8) : 2004	Plastics - Methods of testing: Part 8 Permanence/chemical properties: Section 8 Determination of ash - General methods
79	13360 (Part 8/ Section 9) : 1997	Plastics - Methods of testing: Part 8 Permanence/chemical properties: Section 9 Determination of resistance to environmental stress cracking (ESC) - Bent strip method
80	13360 (Part 8/ Section 11) : 1999	Plastics - Methods of testing: Part 8 Permanence/chemical properties: Section 11 Determination of environmental stress cracking (ESC) – Constant -Tensile stress method ( <i>Under Revision</i> )
81	13360 (Part 8/ Section 13) : 2004	Plastics - Methods of testing: Part 8 Permanences/chemical properties: Section 13 Determination of changes in colour and variations in properties after exposure to daylight under glass, natural
82	13360 (Part 8/ Section 14) : 2005	Plastics - Methods of testing: Part 8 Permanences/chemical properties: Section 14 Determination of the effects of exposure to damp heat, water spray and salt mist ( <i>Under Revision</i> )
83	13360 (Part 9/ Section 1) : 2004	Plastics - Methods of testing: Part 9 Optical properties: Section 1 Determination of refractive index
84	13360 (Part 9/ Section 5) : 1999	Plastics - Methods of testing: Part 9 Optical properties: Section 5 Determination of haze and luminous transmittance of transparent plastics
85	13360 (Part 9/ Section 7) : 2001	Plastics - Methods of testing: Part 9 Optical properties: Section 7 Determination of specular gloss of plastic films and solid plastics
86	13360 (Part 9/ Section 8) : 2001	Plastics - Methods of testing: Part 9 Optical properties: Section 8 Determination of transparency of plastic sheeting
87	13360 (Part 9/ Section 9) : 2001	Plastics - Methods of testing: Part 9 Optical properties: Section 9 Determination of yellow index of plastics
88	13360 (Part 10/ Section 4) : 2001	Plastics - Methods of testing: Part 10 Thermosetting properties: Section 4 Determination of gel time and peak exothermic temperature of reacting
89	13360 (Part 10/ Section 5) : 2004	Plastics - Methods of testing: Part 10 Resin (Thermosetting properties): Section 5 Phenol-formaldehyde Mouldings Determination

		of free phenols - Iodometric method
90	13360 (Part 10/ Section 6) : 2004	Plastics - Methods of testing: Part 10 Resin (thermosetting properties): Section 6 Phenol-formaldehyde mouldings Determination of free ammonia and ammonium compounds - Colorimetric comparison method
91	13360 (Part 10/ Section 7) : 2004	Plastics - Methods of Testing: Part 10 : Resin (Thermosetting Properties) - Section 7 Phenol-Formaldehyde Mouldings - Determination of Acetone-Soluble Matter (Apparent Resin Content of Material)
92	13360 (Part 11/ Section 1) : 1999	Plastics - Methods of testing: Part 11 Special properties: Section 1 Film and sheeting - Determination of coefficients of friction
93	13360 (Part 11/ Section 3) : 2000	Plastics - Methods of testing: Part 11 Special properties: Section 3 Film and sheeting - Determination of blocking resistance
94	13360 (Part 11/ Section 4) : 1999	Plastics - Methods of testing : Part 11 Special properties: Section 4 Determination of gel count of plastics film
95	13360 (Part 11/ Section 5) : 2001	Plastics - Methods of testing: Part 11 Special properties: Section 5 Determination of white point temperature and minimum film-Forming temperature
96	13360 (Part 11/ Section 7) : 1997	Plastics - Methods of testing: Part 11 Special properties: Section 7 Determination of matter extractable by organic solvents (Conventional methods) ( <i>Under Revision</i> )
97	13360 (Part 11/ Section 9) : 2004	Plastics - Methods of testing: Part 11 Special properties: Section 9 Determination of the viscosity of polymers in dilute solution using capillary viscometers - General principles ( <i>Under Revision</i> )
98	13360 (Part 11/ Section 10) : 1999	Plastics - Methods of testing: Part 11 Special properties: Section 10 Resins in the liquid state or as emulsions or dispersions - Determination of apparent viscosity by the brookfield test method
99	13360 (Part 11)/ Section 11 : 1999	Plastics - Methods of testing: Part 11 Special properties: Section 11 Polymers/resins in the liquid state or as emulsions or dispersions – Determination
100	13360 (Part 11) : Section 13 : 2006	Plastics - Methods of testing : Part 11 Special properties: Section 13 Film and sheeting - Determination of cold-crack temperature
101	13360 (Part 11/ Section 14) : 2006	Plastics - Methods of testing: Part 11 Special properties: Section 14 Film and sheeting - Determination of dimensional change on heating
102	13360 (Part 11/ Section 15) : 2006	Plastics - Methods of testing: Part 11 Special properties: Section 15 Determination of viscosity using a falling-ball viscometer - Inclined-Tube method
103	11022 : 1984	Methods of sampling and test for glues (bone, skin/fleshings and fish glues)

**CIVIL ENGINEERING DEPARTMENT (CED)**

**Sectional Committee: Sanitary Appliances and Water Fittings, CED 3 E-mail: [ced@bis.org.in](mailto:ced@bis.org.in)**

<b>Sanitary Appliances and Water Fittings</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	2548 (Part 1) : 1996	Specification for plastic seats and covers for water-closets: Part 1 Thermoset seats and covers ( <i>fifth revision</i> )

2	2548 (Part 2) : 1996	Specification for plastic seats and covers for water-closets: Part 2 Thermoset plastic seats and covers ( <i>fifth revision</i> )
3	6411 : 1985	Specification for gel-coated glass fibre reinforced polyester
4	7231 : 1994	Specification for plastic flushing cisterns for water closets and urinals ( <i>second revision</i> )
5	9758 : 1981	Specification for flush valves and fittings for water closets and urinals
6	9762 : 1994	Specification for polyethylene floats (spherical) for float valves ( <i>first revision</i> )
7	9763 : 2000	Plastic bib taps, pillar taps, angle valves and stop valves for hot and cold water services - Specification ( <i>second revision</i> )
8	11246 : 1992	Specification for glass fibre reinforced polyester resins (GRP) squatting pans ( <i>first revision</i> )
9	12234 : 1988	Specification for plastic equilibrium float valve for cold water services
10	12701 : 1996	Specification for rotational moulded polyethylene water storage tanks ( <i>first revision</i> )
11	13049 : 1991	Specification for diaphragm type (plastic body) float operated valves for cold water services
12	14399 (Part 1) : 1996	Hot press moulded thermosetting glass fibre reinforced polyester resin (GRP) sectional water storage tanks: Part 1 Specification for panels

**Sectional Committee: Flooring, Wall Finishing and Roofing, CED 5**

E-mail: [ced@bis.org.in](mailto:ced@bis.org.in)

<b>Flooring, Wall Finishing and Roofing</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	653 : 1992	Specification for linoleum sheets and tiles ( <i>third revision</i> )
2	1198 : 1982	Code of practice for laying, fixing and maintenance of linoleum floors ( <i>first revision</i> )
3	3461 : 1980	Specification for PVC asbestos floor tiles ( <i>first revision</i> )
4	3462 : 1986	Specification for unbacked flexible PVC flooring ( <i>second revision</i> )
5	3464 : 1986	Methods of test for plastic flooring and wall tiles ( <i>second revision</i> )
6	4631 : 1986	Code of practice for laying of epoxy resin floor toppings ( <i>first revision</i> )
7	5318 : 1969	Code of practice for laying of flexible PVC sheet and tile
8	9162 : 1979	Methods of tests for epoxy resins, hardeners and epoxy resin compositions for floor topping
9	9197 : 1979	Specification for epoxy resin, hardners and epoxy resin compositions for floor topping
10	9704 : 1980	Methods of tests for linoleum sheets and tiles
11	12866 : 1989	Specification for plastic translucent sheets made from thermo- setting polyester resin (glass fibre reinforced)
12	15224 : 2002	Laying of plastic translucent sheets made from thermosetting polyester resin (glass fibre reinforced) alone or in conjunction with asbestos cement sheets/steel sheets/aluminium sheets - Code of practice

**Sectional Committee: Doors, Windows and Shutters, CED 11**

E-mail: [ced@bis.gov.in](mailto:ced@bis.gov.in)

<b>Doors, Windows and Shutters</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	14856 : 2000	Glass fibre reinforced plastic (GRP) panel type door shutters for

		internal use – Specification
2	15931 : 2012	Solid panel foam UPVC door shutters – Specification

Sectional Committee: Plastic Piping System, CED 50

E-mail: [ced50@bis.gov.in](mailto:ced50@bis.gov.in)

Plastic Piping System		
SI No.	IS No.	Title
1	4984 : 1995	Specification for high density polyethylene pipes for potable water supplies ( <i>Fourth revision</i> )
2	4985 : 2000	Specification for unplasticized PVC pipes for potable water supplies ( <i>Third revision</i> )
3	763 (Part 1) : 1975	Code of practice for plastic pipes work for potable water supplies: Part 1 Choice of materials and general
4	7634 (Part 2) : 2012	Code of practice for plastics pipe work for potable water supplies: Part 2 Laying and jointing of polyethylene (PE) pipes ( <i>First Revision</i> )
5	7634 (Part 3) : 2003	Plastic pipes selection, handling, storage and installation for potable water Supplies - Code of practice: Part 3 Laying and jointing of UPVC pipes ( <i>first revision</i> )
6	7834 (Part 1) : 1987	Specification for injection moulded PVC socket fittings with solvent cement for water supplies: Part 1 General requirements ( <i>first revision</i> )
7	7834 (Part 2) : 1987	Specification for injection moulded PVC socket fittings with solvent cement joints for water supplies: Part 2 Specific requirements for 45 degrees elbows ( <i>first revision</i> )
8	7834 (Part 3) : 1987	Specification for injection moulded PVC socket fittings with solvent cement joints for water supplies: Part 3 Specific requirements for 90 degree elbows ( <i>first revision</i> )
9	7834 (Part 4) : 1987	Specification for injection moulded PVC socket fittings with solvent cement joints for water supplies: Part 4 Specific requirements for 90 degree tees ( <i>first revision</i> )
10	7834 (Part 5) : 1987	Specification for injection moulded PVC socket fittings for solvent cement joints for water supplies: Part 5 Specific requirements for 45 degree tees ( <i>first revision</i> )
11	7834 (Part 6) : 1987	Specification for injection moulded PVC socket fittings with solvent cement joints for water supplies: Part 6 Specific requirements for sockets ( <i>first revision</i> )
12	7834 (Part 7) : 1987	Specification for injection moulded PVC socket fittings with solvent cement joints for water supplies: Part 7 Specific requirements for unions ( <i>first revision</i> )
13	7834 (Part 8) : 1987	Specification for injection moulded PVC socket fittings with solvent cement joints for water supplies: Part 8 Specific requirements for caps ( <i>first revision</i> )
14	8008 (Part 1) : 2003	Injection moulded/machined high density polyethylene (HDPE) fittings for potable water supplies - Specification: Part 1 General requirements for fitting ( <i>first revision</i> )
15	8008 (Part 2) : 2003	Injection moulded/machined high density polyethylene (HDPE) fittings for potable water supplies – Specification: Part 2 Specific requirements for 90 degree bend ( <i>first revision</i> )
16	8008 (Part 3)	Injection moulded/machined high density polyethylene (HDPE) fittings



	:2003	for potable water supplies - Specification: Part 3 Specific requirements for 90 degree tees ( <i>first revision</i> )
16	8008 (Part 4) : 2003	Injection moulded/machined high density polyethylene (HDPE) fittings for potable water supplies - Specification : Part 4 Specific requirements for reducers ( <i>first revision</i> )
17	8008 (Part 5) : 2003	Injection moulded/machined high density polyethylene (HDPE) fittings for potable water supplies – Specification: Part 5 Specific requirements for ferrule reducers ( <i>first revision</i> )
18	8008 (Part 6) : 2003	Injection moulded /machined high density polyethylene (HDPE) fittings for potable water supplies - Specification: Part 6 Specific requirements for pipe ends ( <i>first revision</i> )
19	8008 (Part 7) : 2003	Injection moulded /machined high density polyethylene (HDPE) fittings for potable water supplies - Specification : Part 7 Specific requirements for sandwich flanges ( <i>first revision</i> )
20	8008(Part 8) : 2003	Injection moulded/machined high density polyethylene (HDPE) fittings for potable water supplies: Part 8 Specific requirements for reducing tees ( <i>first revision</i> )
21	8008 (Part 9) : 2003	Injection moulded/machined high density polyethylene (HDPE) fittings for potable water supplies – Specification: Part 9 Specific requirements for ends caps ( <i>first revision</i> )
22	8360 (Part 1) : 1977	Specification for fabricated high density polyethylene (HDPE) fittings for potable water supplies: Part 1 General requirements
23	8360 (Part 2) : 1977	Specification for fabricated high density polyethylene (HDPE) fittings for potable water supplies: Part 2 Specific requirements for 90 degree tees
24	8360 (Part 3) : 1977	Specification for fabricated high density polyethylene (HDPE) fittings for potable water supplies: Part 3 Specific requirements for 90 degree bends
25	9271 : 2004	Unplasticized polyvinyl chloride UPVC single wall corrugated pipes for drainage - Specification ( <i>First Revision</i> )
26	10124 (Part 1) : 2009	Fabricated PVC-U fittings for potable water supplies - Specification: Part I General requirements ( <i>second revision</i> )
27	10124 (Part 2) : 2009	Fabricated PVC-U fittings for potable water supplies - Specification: Part 2 Specific requirements for sockets ( <i>second revision</i> )
28	10124 (Part 3) : 2009	Fabricated PVC-U fittings for potable water supplies - Specification: Part 3 Specific requirements for straight reducers ( <i>second revision</i> )
29	IS 10124(Part 4):2009	Fabricated PVC-U fittings for potable water supplies - Specification: Part 4 Specific requirements for caps ( <i>second revision</i> )
30	10124 (Part 5) : 2009	Fabricated PVC-U fittings for potable water supplies - Specification: Part 5 Specific requirements for equal tees( <i>second revision</i> )
31	10124 (Part 6) : 2009	Fabricated PVC-U fittings for potable water supplies - Specification: Part 6 Specific requirements for flanged tail piece with metallic flanges ( <i>second revision</i> )
32	10124 (Part 7) : 2009	Fabricated PVC-U fittings for potable water supplies- Specification: Part 7 Specific requirements for threaded adaptors ( <i>second revision</i> )
33	10124 (Part 8) : 2009	Fabricated PVC-U fittings for potable water supplies - Specification: Part 8 Specific requirements for 90 degree bends ( <i>second revision</i> )
34	10124 (Part 9) : 2009	Fabricated PVC-U fittings for potable water supplies - Specification: Part 9 Specific requirements for 60 degree bends ( <i>second revision</i> )
35	10124 (Part 10)	Fabricated PVC-U fittings for potable water supplies : Part 10 Specific

	:2009	requirements for 45 degree bends ( <i>second revision</i> )
36	10124 (Part 11) : 2009	Fabricated PVC-U fittings for potable water supplies - Specification: Part 11 Specific requirements for 30 degree bends ( <i>second revision</i> )
37	10124 (Part 12) : 2009	Fabricated PVC-U fittings for potable water supplies- Specification: Part 12 Specific requirements for 22 1/2 degree bends ( <i>second revision</i> )
38	10124 (Part 13) : 2009	Fabricated PVC-U fittings for potable water supplies - Specification: Part 13 Specific requirements for 11 1/4 degree bends ( <i>second revision</i> )
39	12231 : 1987	Specification for Unplasticized PVC pipes for use in suction and delivery lines of agricultural pump sets
40	12235 (Part 1 to19) : 2004	Thermoplastic pipes and fittings - Methods of test Measurement of dimensions
41	12709 : 1994	Specification for glass-fibre reinforced plastic (GRP) pipes joints and fittings for use for potable water supply ( <i>first revision</i> )
42	12818 : 2010	Unplasticized polyvinyl chloride (PVC-U) screen and casing pipes for bore/tubewells - Specification ( <i>second revision</i> )
43	13592 : 2013	Unplasticized polyvinyl chloride (PVC-U) pipes for soil and waste discharge system for inside and outside buildings including ventilation and rain water system – Specification ( <i>first revision</i> of IS 13592)
44	13593 : 1992	Specification for UPVC pipe fittings to be used with the UPVC pipes in the suction and delivery lines of agricultural pumps
45	13916 : 1994	Code of practice for installation of glass fibre reinforced plastic (GRP) piping system
46	14333 : 1996	High density polyethylene pipes for sewerage – Specification
47	14402 : 1996	Specification for GRP pipes, joints and fittings for use for sewerage, industrial waste and water (other than potable)
48	14735 : 1999	Unplasticized polyvinyl chloride (UPVC) injection moulded fittings for soil and waste discharge system for inside and outside buildings including ventilation and rain water system - Specification.
49	14787 : 2000	Unplasticized PVC pipes (ducts) and fittings for underground telecommunications cable installation – Specification
50	14885 : 2001	Specification for polyethylene pipe for supply of gaseous fuel
51	5265 : 2003	Flexible PVC pipes polymer reinforced thermoplastic hoses for suction and delivery lines of agricultural pumps – Specification
52	328 : 2003	Unplasticized non-pressure polyvinyl chloride (PVC-U) pipes for use in underground drainage and sewerage system – Specification
53	15450 : 2004	Specification for polyethylene/aluminium/polyethylene composite pressure pipes for hot and cold water supplies
54	15778:2007	Chlorinated polyvinyl chloride (CPVC) pipes for potable hot and cold water distribution supplies – Specification
55	15801 : 2008	Polypropylene-random copolymer pipes for hot and cold water supplies – Specification
56	15927 (Part 1) : 2012	Specification for polyethylene fittings for use with polyethylene pipes for the supply of gaseous fuels: Part 1 Fittings for sockets using heated tools
57	15927 (Part 2) : 2012	Specification for polyethylene fittings for use with polyethylene pipes for the supply of gaseous fuels: Part 2 Spigot fittings for butt fusion jointing or socket fusion using heated tools, spigot fittings for use with electro-fusion fittings

58	15927(Part 3) : 2011	Specification for polyethylene fittings for use with polyethylene pipes for the supply of gaseous fuels: Part 3 Electro-fusion fittings
59	16098 (Part 1) : 2013	Structured - Wall Plastics Piping Systems for Non- Pressure Drainage and Sewerage - Specification: Part 1 Pipes and Fittings with Smooth External Surface, Type A
60	16098 (Part 2) : 2013	Structured - Wall Plastics Piping Systems for Non- Pressure Drainage and Sewerage – Specification: Part 2 Pipes and Fittings with Non-Smooth External Surface, Type B
61	16130 : 2014 /ISO 12162	Thermoplastics materials for pipes and fittings for pressure applications – Classification and designation – Overall service (Design) Coefficient (Adoption of ISO 1216)
62	16462 : 2016 /ISO 9080 : 2003	Plastics piping and ducting systems - Determination of the long -Term Hydrostatic strength of thermoplastics materials in pipe form by extrapolation
63	57 : 993	Handbook for pipes and fittings for drinking water supply
<b>New Standards under formulation</b>		
<b>SI No.</b>	<b>Document No.</b>	<b>Title</b>
1.	CED 50 (7842)	Plastics Pipes and Fittings Combined Chemical Resistance Classification Table (Adoption of ISO/TR 10358:1993)
2.	CED 50 (8066)	OPVC Pipes for water supply- Specification
3.	CED 50 (10575)	CPVC Fittings for potable hot and cold water distribution supplies- Specification

**Sectional Committee:Furniture, CED 35**

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<b>Furniture</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	13713 : 1993	Plastic chairs for general office purposes - Specification

**Sectional Committee:Builder's Hardware, CED 15**

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<b>Builder's Hardware</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	6318 : 1971	Specification for plastic window stays and fasteners
2	12867 : 1989	Specification for PVC hand rails covers

**WATER RESOURCES DEPARTMENT (WRD)**

**Sectional Committee: Dams and Spillways, WRD 09**

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<b>Dams and Spillways</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	15058 : 2002	PVC Water-Stops at transverse contraction joints for use in masonry

	and concrete dams-specification
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**ELECTRONICS AND INFORMATION TECHNOLOGY DEPARTMENT (LITD)**

**Sectional Committee: Wire & Cables (Telecommunication), LITD 06** E-mail: [litd@bis.org.in](mailto:litd@bis.org.in)

SL NO.	IS Number	Title
1	9938 : 1981	Recommended colors for PVC insulation for LF wires and cables
2.	10579 : 1983	Polyethylene (PE) insulation and sheath of telecommunication cables

**Electro technical Department (ETD)**

**Sectional Committee: Electric Insulating Materials, ETD 2** E-mail: [eetd@bis.gov.in](mailto:eetd@bis.gov.in)

SL NO.	IS Number	Title
1.	7809 (Part 3/Sec 1) : 1986	Pressure sensitive adhesive insulating tapes for electrical purposes: Part 3 Requirements for individual materials: Section 1 Plasticized polyvinylchloride tapes with non-Thermosetting adhesive
2.	7809 (Part 3/Sec 2) : 1981	Pressure sensitive adhesive tapes for electrical purposes: Part 3 Specifications for individual materials, Section 2 Requirements for polyester film tapes (PETP) with thermosetting adhesive
3.	7809 (Part 3/Sec 3) : 1981	Pressure sensitive adhesive tapes for electrical purposes: Part 3 Specifications for individual materials: Section 3 Polyester film tapes (PETP) with non-thermosetting adhesive
4.	8504 (Part 1) : 1977	Guide for determination of thermal endurance properties of electrical insulating material: Part 1 Temperature indices and thermal endurance properties
5.	IS 8504 ( Part 2) : 2013	Electrical insulating materials - Thermal endurance properties: Part 2 Determination of thermal endurance properties of electrical insulating materials - Choice of test criteria
6.	IS 8504 ( Part 3) : 1994	Guide for determination of thermal endurance properties of electrical insulating materials: Part 3 Statistical methods
7.	IS 8504 ( Part 4) : 2013	Electrical insulating materials thermal endurance properties: Part 4 Instructions for calculating thermal endurance characteristics
8.	IS 8504 ( PART 5 / SEC 1) : 2012	Electrical insulating materials thermal endurance properties: Part 5 Ageing ovens, Section 1 single chamber ovens
9.	IS 8504 ( PART 5 / SEC 2) : 2012	Electrical insulating materials thermal endurance properties: Part 5 Ageing ovens, Section 2 precision ovens for use up to 300 c
10.	IS 8504 ( PART 5 / SEC 3) : 2012	Electrical insulating materials thermal endurance properties: Part 5 Ageing ovens, Section 3 multi-chamber ovens
11.	IS 8504 ( PART 6) : 2012	Electrical insulating materials thermal endurance properties: Part 6 Determination of relative thermal endurance index $r_{te}$ of an insulating material

12.	IS 8504 ( PART 7 ) : 2012	Electrical insulating materials thermal endurance properties: Part 7 Determination of thermal endurance indices $t_i$ and $t_{re}$ of an insulating material using the fixed time frame method
13.	10192 : 1982	Synthetic resin bonded glass fibre (SRBGF) sheets for electrical purposes
14.	11298 (Part 3/Sec 1) : 1991	Plastics films for electrical purposes: Part 3 Specification for individual materials: Section 1 polypropylene film for capacitors ( <i>First Revision</i> )
15.	11298 (Part 3/Sec 2) : 1999	Plastics films for electrical purposes: Part 3 Specification for individual materials: Section 2 Metalized polypropylene films
16.	11298 (Part 3/Sec 3) : 1998	Plastics films for electrical purposes: Part 3 Specification for individual materials: Section 3 Requirements for balanced biaxially oriented polyethylene terephthalates (PET) films used for electric insulation
17.	11298 (Part 3/Sec 4) : 1998	Plastics films for electrical purposes: Part 3 Specification for individual materials: Section 4 Requirements for polycarbonate (PC) films used for electric insulation
18.	11298 (Part 3/Sec 5-7) : 1998	Plastics films for electrical purposes: Part 3 Specification for individual materials: Section 5-7 Requirements for polyimide films
19.	11298 (Part 3/Sec 8) : 1998	Plastics films for electrical purposes: Part 3 Specification for individual materials: Section 8 Requirements for fluoroethylene (FEP) films used for electrical insulation
20.	11654 (Part 1) : 1986	Flexible insulating sleeving: Part 1 Definitions and general requirements
21.	11654 (Part 2) : 1986	Flexible insulating sleeving: Part 2 Methods of tests
22.	11654 (Part 3/Sec 1) : 1986	Flexible insulating sleeving : Part 3 Specifications for individual types of Sleeveings : Section 1 General purpose grade sleeving with temperature index 90

**Sectional Committee: Power Cables Sectional Committee, ETD 09**

**E-mail: [eetd@bis.gov.in](mailto:eetd@bis.gov.in)**

SL NO.	IS Number	Title
1.	694 : 2010	Polyvinyl chloride insulated unsheathed and sheathed cables/Cords with rigid and flexible conductor for rated voltages up to and including 1100 V( <i>fourth revision</i> )
2.	1554 (Part 1) : 1988	PVC insulated (heavy duty) electric cables: Part 1 for working voltages upto and including 1 100 V ( <i>Third Revision</i> )
3.	1554 (Part 2) : 1988	PVC insulated (heavy duty) electric cables: Part 2 for working voltages from 3.3kV upto and including 11 kV ( <i>Second Revision</i> )
4.	3961 (Part 6) : 2014	Recommended current ratings for cables - Part 6 : Cross linked polyethylene insulated PVC sheathed cables
5.	4289 (Part 2) : 2000	Flexible cables for lifts and other flexible connections: Part 2 PVC insulated cables
6.	5831 : 1984	PVC insulation and sheath of electric cables ( <i>First Revision</i> )
7.	7098 (Part 1) : 1988	Cross-linked polyethylene insulated thermoplastic sheathed cables - Specification : Part 1 for working voltages upto and including 1 100 V ( <i>First Revision</i> )

8.	7098 (Part 2) : 2011	Cross linked polyethylene insulated thermoplastic sheathed cables - Specification : Part 2 for working voltages from 3.3 kV upto and including 33 kV ( <i>Second Revision</i> )
9.	7098 (Part 3) : 1993	Cross linked polyethylene insulated thermoplastic sheathed cables: Part 3 for working voltages from 66 kV upto and including 220 kV
10.	8438 : 1987	Moulds of cast resin based straight through joints for cables for voltages upto and including 1100 V

Sectional Committee: Secondary Cells & Batteries Sectional Committee, ETD

E-mail: [eetd@bis.gov.in](mailto:eetd@bis.gov.in)

SL NO.	IS Number	Title
1.	1146: 981	Rubber and plastic containers for lead acid storage batteries ( <i>Second Revision</i> )
2.	6071: 1986	Synthetic separators for lead-acid batteries ( <i>First Revision</i> )

Sectional Committee: Electrical Wiring Accessories Sectional Committee ETD 1

E-mail: [eetd@bis.gov.in](mailto:eetd@bis.gov.in)

SL NO.	IS Number	Title
1.	371:1999	Ceiling roses ( <i>Third Revision</i> )
2.	1293:2005	Plugs and socket outlets of rated voltage upto and including 250 volts and rated current upto and including 16 amperes - Specification ( <i>Third Revision</i> )
3.	3854 : 1997	Switches for domestic and similar purposes
4.	4160 : 2005	Interlocking switch socket outlets - Specification
5.	9537 (Part 1) : 1980	Conduits for electrical installations: Part 1 General requirements
6.	9537 (Part 3) : 1983	Conduits for electrical installations: Part 3 Rigid plain conduits of insulating materials
7.	9537 (Part 4) : 1983	Conduits for electrical installations: Part 4 Pliable self- recovering conduits of insulating materials
8.	9537 (Part 5) : 2000	Conduits for electrical installations: Part 5 Pliable conduits of insulating material (Superseding IS 6946)
9.	11037 : 1984	Electronic type fan regulators
10.	14768 (Part 1) : 2000	Conduit fittings for electrical installations :Part 1 General requirements
11.	14772 : 2000	Enclosures for accessories for household and similar fixed electrical installations
12.	14930 (Part 1) : 2001	Conduit systems for electrical installations : Part 1 General requirements
13.	14930 (Part 2) : 2001	Conduit systems for electrical installations : Part 2 Particular requirements for conduit system buried underground
14.	15787 : 2008	Switch- socket outlets (Non-Interlock Type)
15.	61058 (Part 1) : 2001	Switches for appliances: Part 1 General requirement
<b>New Standards under Formulation</b>		
SI No.	Document No.	Title

1.	ETD 14 (6865)	Cable management - Cable tray systems and cable ladder systems
2.	ETD 14 (10724)	Cable cleats for electrical installations
3.	ETD 14 (10741)	Cable management systems – Cable ties for electrical installations

### **TRANSPORT ENGINEERING DEPARTMENT (TED)**

**Sectional Committee: Transport Packages, Packaging Code, TED 24 E-mail: [ted24@bis.gov.in](mailto:ted24@bis.gov.in)**

<b>Freight Containers &amp; Pallets</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	13664 : 1993	Polly pallets for bag storage godowns - Specification
2	13714 : 1993	Dunnage pallets - Ware housing - Specification
3	16058 : 2013	Dunnage pallets made from recycled plastic wastes for warehousing application – Specification

### **CHEMICAL DEPARTMENT (CHD)**

**Sectional Committee: Footwear, CHD 19**

**E-mail: [chd@bis.gov.in](mailto:chd@bis.gov.in)**

<b>Footwear</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1.	6719:1972	Solid Pvc Soles And Heels
2.	6721:1972	PVC Sandal
3.	12240 (Part 1) : 1988	Methods of test for polyvinyl chloride boots: Part 1 Measurement of thickness
4.	12240 (Part 2) : 1988	Methods of test for polyvinyl chloride boots: Part 2 Determination of durometer hardness Shore A
5.	12240 (Part 3) : 1988	Methods of test for polyvinyl chloride boots: Part 3 Determination of relative density
6.	12240 (Part 4) : 1988	Methods of test for polyvinyl chloride boots: Part 4 Determination of volatility
7.	12240 (Part 5) : 1988	Methods of test for polyvinyl chloride boots: Part 5 Determination of lead content
8.	12240 (Part 6) : 1988	Methods of test for polyvinyl chloride boots: Part 6 Determination of tensile strength and elongation at break
9.	12240 (Part 7) : 1988	Methods of test for polyvinyl chloride boots: Part 7 Flexing test resistance to cut growth for soling material
10.	12240 (Part 8) : 1988	Methods of test for polyvinyl chloride boots: Part 8 Resistance to flexing for polyvinyl chloride upper material
11.	12254 : 1993	Polyvinyl Chloride (PVC) Industrial Boots
12.	13893 : 1994	Polyurethane soles semirigid
13.	14544 : 1998	Leather safety footwear with direct moulded PVC soles
14.	15196 : 2002	Plastic footwear lasts
<b>New Standards under Formulation</b>		
<b>SI No.</b>	<b>Document No.</b>	<b>Title</b>

1.	CHD 19 (10317)	Moulded plastics footwear-Lined or unlined polyurethane boots for general industrial use - Specification
2.	CHD 19 (1811)	Specification for canvas shoes, polymeric sole ( <i>Wide Circulation</i> )
3.	CHD 19 (1812)	Specification for canvas boots, polymeric sole ( <i>Wide Circulation</i> )

**Sectional Committee: Printing Inks Stationery & Allied Products, CHD 14** E-mail: [chd@bis.gov.in](mailto:chd@bis.gov.in)

<b>Refill, ball point pen</b>		
<b>SI No.</b>	<b>IS Number</b>	<b>Title</b>
1	3707 : 1984	Refill, ball point pen ( <i>second revision</i> )

**Sectional Committee: Explosives and Pyrotechnics, CHD 26**

E-mail: [chd@bis.gov.in](mailto:chd@bis.gov.in)

<b>Plastic boxes for safety matches</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	10373 : 1982	Plastic boxes for safety matches

**Sectional Committee: Thermal Insulation, CHD 27**

E-mail: [chd@bis.gov.in](mailto:chd@bis.gov.in)

<b>Expanded polystyrene for thermal insulation</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1.	4671 : 1984	Expanded polystyrene for thermal insulation purposes ( <i>first revision</i> ) ( <i>Under Revision</i> )

#### **FOOD AND AGRICULTURE DEPARTMENT (FAD)**

**Sectional Committee: Farm Irrigation and Drainage Systems, FAD 17** E-mail: [fad17@bis.gov.in](mailto:fad17@bis.gov.in)

<b>Farm Irrigation and Drainage Systems</b>		
<b>SI No.</b>	<b>IS No.</b>	<b>Title</b>
1	12786 : 1989	Irrigation equipment - Polyethylene pipes for irrigation laterals
2	14151 ( Part 1 ) : 1999	Irrigation equipment - Sprinkler pipes: Part 1 Polyethylene pipes
3	14151 ( Part 2 ) : 2008	Irrigation equipment - Sprinkler pipes: part 2 Quick coupled polyethylene pipes and fittings
4	13487 : 1992	Irrigation equipment - Emitters
5	13488 : 2008	Irrigation equipment – Emitting pipes system
6	14482 : 1997	Irrigation Equipment - Polyethylene micro tubes for drip irrigation
<b>New Standards under Formulation</b>		
<b>SI No.</b>	<b>Document No.</b>	<b>Title</b>
7	FAD 17 (10664)	Plastics piping systems polyethylene (PE) pipes for irrigation specifications



**PRODUCTION AND GENERAL ENGINEERING DEPARTMENT (PGD)**

**Sectional Committee: Educational Instruments & Equipment, PGD 22** E-mail: [pgd@bis.gov.in](mailto:pgd@bis.gov.in)

<b>SL NO.</b>	<b>IS No.</b>	<b>Title</b>
1	1561 : 1989	Set squares for use of drawing offices Specification ( <i>first revision</i> )
2.	1480 : 1970	Specification for metric scales for general purposes ( <i>first revision</i> )
3.	7078 : 1973	Specification for plastics used in instrument industry
4.	IS/ISO 9960-1 : 1992	Draughting instruments with or without graduation: Part 1 Draughting scale rules

**Sectional Committee: Bearing, PGD 13**

E-mail: [pgd@bis.gov.in](mailto:pgd@bis.gov.in)

<b>Thermoplastic polymers for plain bearings &amp; Thermoplastic sealing element</b>		
<b>SL NO.</b>	<b>IS No.</b>	<b>Title</b>
1	15624 : 2005/ ISO 6691 : 2000	Thermoplastic polymers for plain bearings classification and designation

**MECHANICAL ENGINEERING DEPARTMENT (MED)**

**Sectional Committee: Gaskets and Packing, MED 30**

E-mail: [med@bis.gov.in](mailto:med@bis.gov.in)

<b>SL NO.</b>	<b>IS No.</b>	<b>Title</b>
1	15545 (Part 1) : 2015/ ISO 16589-1 : 2011	Rotary shaft lip-type seals incorporating sealing elements: Part 1 Nominal dimensions and tolerances

## TEXTILE DEPARTMENT (TXD)

**Sectional Committee: Cordage, TXD 09**  
[txd@bis.gov.in](mailto:txd@bis.gov.in)

**E-Mail:**

Sl. No.	IS No.	Title
1.	4572 : 2014 ISO 1140 : 2012	Fibre ropes polyamide 3- 4- 8- and 12-Strand ropes
2.	5175 : 2014 ISO 1346 : 2012	Fibre ropes polypropylene split film monofilament and multifilament PP2 and polypropylene high- Tenacity multifilament PP3 3- 4- 8- and 12-Strand ropes
3.	6590 : 1972	Braided nylon rope for mountaineering purposes
4.	8674 : 2013	Fibre ropes - Polyethylene -3- and 4 -Strand ropes
5.	9536 : 1989	Polyamide cord
6.	11066 : 2014/ ISO 1141 : 2012	Fibre ropes polyester 3- 4- 8- and 12-Strand ropes
7.	11199 : 1985	HDPE Monofilament twine door nets
8.	11521 : 1985	Cargo handling nets
9.	11927 : 1987	Netting and fibre rope load restraint systems in surface transport
10.	11928 (Part 1 & 2) : 1987	Roundslings made of man-made fibres for general service: Parts 1 and 2
11.	IS 12733 : 1989	Polyamide double braided ropes
12.	12734 : 2002	Textiles polypropylene twine
13.	14928 : 2001	Textiles - Composite synthetic fibre ropes
14.	14929 : 2001	Textiles - High strength polyolefins copolymer ropes

**Sectional Committee: Textile Materials for Aerospace and Narrow Fabrics, TXD 13**  
**Mail:** [txd@bis.gov.in](mailto:txd@bis.gov.in)

**E-**

Sl. No.	IS No.	Title
1.	4227 : 1998	Textiles - Braided nylon cords for aerospace purposes
2.	4228 : 1979	Nylon tapes for aerospace purposes
3.	4726 : 1984	Light weight nylon fabric for parachutes
4.	4727 : 1968	Nylon webbing for aeronautical purposes
5.	5746 (Part 1) : 1987	Woven glass fibre fabrics plastic laminates for aerospace purposes: Part 1 Loom- State fabrics
6.	5746 (Part 2) : 1987	Woven glass fibre fabrics for plastic laminates for aerospace purposes: Part 2 Desized fabrics
7.	5746 (Part 3) : 1987	Woven glass fibres fabric for plastic laminates for aerospace purposes: Part 3 Finished fabrics for use with polyester resin systems
8.	6349 : 1981	Tape nylon tubular for aerospace applications
9.	6900 : 1973	Proofed nylon leno fabric
10.	8947 : 1978	Material nylon webbing for aircraft safety belts

11.	9267 : 1979	Tubular nylon webbing for aerospace purposes
12.	10476 : 1983	Woven roving glass fabric for polyester-glass laminates for aerospace purposes
13.	11326 : 1985	Nylon fabrics for coating with natural or synthetic elastomers
14.	11916 : 2001	Textiles - Continuous filament glass yarn for aerospace and other purposes
15.	5351 : 2001	Textiles - Polyester fiber woven tape for electrical insulation purposes
16.	5352 : 1988	Glass-fibre woven tape for electrical purposes
17.	5352 ( Part 1 ) : 1999	Textile - Glass and glass-polyester fibre woven tapes: Part 1 - Specification
18.	5352 ( Part 2 ) : 1999	Textiles - Glass and glass-polyester fibre woven tapes: Part 2 Methods of test
19.	10415 : 1992	Textiles - Polyester fibre glass tapes
20.	10692 : 1983	High density polyethylene webbing
21.	13597 : 1992	Textiles - Polypropylene braided tapes for berets
22.	13598 : 1992	Textiles - High density polyethylene monofilament newar
23.	14358 : 1996	Textiles - Nylon laces for shoes and boots
24.	15041 : 2001	Textiles - Flat woven webbing slings made of man-made fibres for general services

**Sectional Committee: Textile Materials for Marine/fishing Purposes, TXD 18**      **E-Mail:**  
[txd@bis.gov.in](mailto:txd@bis.gov.in)

Sl. No.	IS No.	Title
1.	4401 : 2006	Textiles - Twisted nylon fish-Net twines
2.	4402 : 2005	Textiles - Fishing nets - Netting - Basic terms and definitions
3.	4640 : 1993	Fishing nets - Designation of netting yarns in the tex system
4.	4641 : 2005	Textiles - Fishing nets - Description and designation of knotted netting
5.	5508 (Part 10) : 2015	Guide for fishing gear: Part 10 Seer gillnet ( <i>first revision</i> )
6.	5508 (Part 11) : 2015	Guide for fishing gear: Part 11 Silver pomfret gillnet ( <i>first revision</i> )
7.	5508 (Part 1 to 5) : 1969	Guide for fishing gear - General
8.	5508 ( Part 20 ) : 1979	Guide for fishing gear: Parts 19 to 21 in one volume
9.	5508 (Part 22) : 1981	Guide for fishing gear data sheet for troll line
10.	5508 (Part 23) : 1994	Guide for fishing gear: Part 23 26. 8 m two seam trawl
11.	5508 (Part 24) : 1994	Guide for fishing gear:Part 24 37.1 m butterfly trawl nets
12.	5508 (Part 25) : 2015	Guide for fishing gear: Part 25 Mackerel gillnet
13.	5508 (Part 6 to 13) : 1972	Guide for fishing gear

14.	5508 (Part 14 to 16) : 1975	Guide for fishing gear
15.	5508 (Part 17 & 18) : 1976	Guide for fishing gear - 35 m and 50-m bulged belley trawl net
16.	5508 (Part 19 to 21) : 1979	Guide for fishing gear: Parts 19 to 21 in one volume
17.	5815 (Part 1) : 1971	Methods of test for fishing gear materials: Part 1 Determination of thickness
18.	5815 (Part 2) : 1970	Methods of test for fishing gear materials: Part 2 Determination of linear density mass per unit length
19.	5815 (Part 3) : 1970	Methods of test for fishing gear materials: Part 3 Determination of twist
20.	5815 (Part 4) : 1993	Fishing nets - Determination of breaking load and knot breaking load of netting yarns
21.	5815 (Part 5) : 2005	Textiles - Fishing nets - Determination of mesh breaking force of netting
22.	5815 (Part 6) : 1993	Netting yarns - Determination of change in length after immersion in water
23.	5815 (Part 7) : 1993	Fishing nets - Determination of elongation of netting yarns
24.	5815 (Part 8) : 1988	Methods of test for fishing gear materials: Part 8 Determination of sinking speed
25.	5815 (Part 9) : 1994	Finishing gear materials- Method of test: Part 9 Determination of weathering resistance
26.	6347 : 2003	Textile - Polyethylene monofilament twines for fishing
27.	6348 : 1971	Basic terms for hanging of netting
28.	6920 : 1993	Fishing nets - Cutting knotted netting to shape tapering
29.	7533 : 2003	Textiles - Polyamide nylon monofilament line for fishing
30.	8746 : 1993	Fishing nets - Mounting and joining of netting - Terms and illustrations
31.	9945 : 1999	Fishing nets - Method for determination of taper ratio and cutting rate
32.	14190 : 1995	Combination wire ropes for fishing purposes-Specification
33.	14287 : 1995	Textiles - Polypropylene multifilament netting twines
34.	15788 : 2008	Fishing nets - Method of test for the determination of mesh size - Opening of mesh
35.	15789 : 2008	Textiles - Method of test for the determination of mesh size length of mesh

**Sectional Committee: Textile Materials Made From Polyolefins, TXD 23 E-Mail: [txd@bis.gov.in](mailto:txd@bis.gov.in)**

Sl. No.	IS No.	Title
1.	6192 : 1994	Textiles- Monoaxially oriented high density polyethylene tapes- Specification
2.	6193 : 1971	Methods of tests for monoaxially oriented high density polyethylene polypropylene tapes
3.	6899 : 1997	Textiles - High density polyethylene (HDPE) woven fabrics
4.	7903 : 2011	Textiles - Tarpaulines made from high density polyethylene woven fabric

5.	8069 : 1989	High density polyethylene (HDPE) woven sacks for packing pesticides
6.	9755 : 2016	Textiles - High density polyethylene (HDPE)/ polypropylene( PP) woven sacks for packing fertilizers - Specification ( <i>fifth revision</i> )
7.	11197 : 1985	Monoaxially oriented polypropylene tapes
8.	11652 : 2000	Textiles - Woven sacks for packing cement - High density polyethylene (HDPE)/ polypropylene (PP)
9.	14252 : 2015	Textiles - High density polyethylene (HDPE)/ polyethylene (PP) Woven sack for filling sand - Specification ( <i>second revision</i> )
10.	14887 : 2014	Textiles - High density polyethylene (HDPE)/ polypropylene (PP) Woven sacks for packaging of 50 kg food grains - Specification
11.	14968 : 2015	Textiles - High density polyethylene (HDPE)/ polypropylene (PP) woven sacks for packing 50 Kg 25 Kg sugar - Specification ( <i>first revision</i> )
12.	16187 : 2014	Textiles - High density polyethylene (HDPE)/ polypropylene (PP) Leno woven sacks for packaging and storage of fruits and vegetables - Specification
13.	16208 : 2015	Textiles - High density polyethylene (HDPE)/ polypropylene (PP) woven sacks for packaging 10 kg 15 kg 20 kg 25 kg and 30 kg foodgrains - Specification
<b>New Standards Under Formulation</b>		
Sl. No.	Doc No.	Title
1	TXD 23 (10359)	Textiles - Tarpaulins made from high density polyethylene (HDPE) woven fabrics - Specification
2	TXD 23 (10621)	Textiles - Polypropylene PP block bottom valve sacks for packaging of cement - Specification
3	TXD 23 (10622)	Textiles - High density polyethylene (HDPE)/ polypropylene (PP) woven sacks for packing cement - Specification
4	TXD 23 (10335)	Textiles - High density polyethylene (HDPE)/ polypropylene (PP) woven Sacks for packaging polymer materials - Specification

**Sectional Committee: Geosynthetics, TXD 30**  
[txd@bis.gov.in](mailto:txd@bis.gov.in)

**E-Mail:**

Sl. No.	IS No.	Title
1.	13162 ( Part 2 ) : 1991	Geotextiles - Methods of test: Part 2 Determination of resistance to exposure of ultra-violet light and water Xenon arc type apparatus
2.	13162 ( Part 3 ) : 1992	Geotextiles - Methods of test:Part 3 Determination of thickness at specified pressures
3.	13162 ( Part 4 ) : 1992	Geotextiles - Methods of test: Part 4 Determination of puncture resistance by falling cone method
4.	13162 ( Part 5 ) : 1992	Geotextiles - Methods of test: Part 5 Determination of tensile properties using a wide width strip
5.	13321 ( Part 1 ) : 1992	Glossary of terms for geo-synthetics: Part 1 Terms used in materials and properties
6.	13325 : 1992	Determination of tensile properties of extruded polymer geogrids using the wide strip - Test method
7.	15909 : 2015	PVC Geomembranes for Lining - Specification ( <i>first revision</i> )

8.	15910 : 2010	Geo-Synthetics for highways specification
9.	16078 : 2013	Geosynthetics - Static puncture test CBR test
10.	16090 : 2013	Geo-Synthetics - Geo-Textiles used as protection or cushioning materials
11.	16343 : 2015	Geosynthetics - Guidelines for installation of geotextiles as pavement fabric
12.	16344 : 2015	Geosynthetics - Guidelines for installation of geotextile for permanent erosion control in hard armor systems
13.	16345 : 2015	Geosynthetics - Guidelines for installation of geotextile used in sub-Grade separation in pavement structures
14.	16349 : 2015	Geosynthetics - Guidelines for installation of geogrids used as reinforcement of base and sub-base layers in pavement structures
15.	16352 : 2015	Geosynthetics - High density polyethylene HDPE geomembranes for lining - Specification
16.	16355 : 2015	Geosynthetics - Guidelines for installation of geogrids used as soil reinforcement in mechanically stabilised earth MSE Retaining structures
17.	16362 : 2015	Geosynthetics - Geotextiles used in subgrade stabilization in pavement structures - Specification
18.	16363 : 2015	Geosynthetics - Guidelines for installation of geotextile used in subsurface drainage application
19.	16391 : 2015	Geosynthetics - Geotextiles used in sub-grade separation in pavement structures - Specification
20.	16392 : 2015	Geosynthetics - Geotextiles for permanent erosion control in hard armor systems - Specification
21.	16393 : 2015	Geosynthetics - Geotextiles used in subsurface drainage application - Specification

**New Standards Under Formulation**

SI No.	Document No.	Title
1.	TXD 30 (01029)	Specification for geo-grids used as reinforcement of base and subbase layers in pavement structures
2.	TXD 30 (01030)	Specification for geogrids used as soil reinforcement in mechanically stabilised earth MSE retaining structures
3.	TXD 30 (10312)	Geosynthetics - Wide width tensile test
4.	TXD 30 (10313)	Geotextiles - Tensile test for joints seams by wide -Width method
5.	TXD 30 (01195)	Geo-Synthetics - Specification for needle punched non woven geobags for coastal and waterways
6.	TXD 30 (10293)	Geo-Synthetics - Specification for polypropylene multifilament woven geotextile- bags for coastal and waterways protection

**Sectional Committee: Industrial Fabrics and Nonwovens, TXD 33**

**E-Mail: [txd@bis.gov.in](mailto:txd@bis.gov.in)**

**Standards Published**

SI No.	IS No.	Title
1.	4399 : 1967	Nylon fabrics for industrial and special purposes
2.	8430 : 1977	Nylon fabrics for inflatable equipment

3.	8991 : 1978	Nylon fabric for sleeping bags
4.	11573 : 1986	Polyamide yarn for cycle and rickshaw tyres
5.	11574 : 1986	Polyamide filter cloth
6.	11575 : 1986	Polyester filter cloth
7.	11915 : 1986	Nylon fabric for making mountaineering equipment
8.	11926 : 1987	Polyamide tyre cord warp sheet for automotive tyres
9.	12020 ( Part 1 ) : 1987	Polypropylene filter cloth: Part 1 Filter cloth from spun polypropylene yarn
10.	12415 : 1988	Polyamide duck for industrial use
11.	12416 : 1988	Polyester cotton belting duck
12.	13128 (Part 1) : 1991	Textiles - Fabric woven glass fibre for electrical insulation and plastic laminate: Part 1 Loomstate fabrics
13.	13128 (Part 2) : 1991	Textiles - Fabric woven glass fibre for electrical insulation and plastic laminate: Part 2 Desized and finished fabrics
14.	13137 : 2003	Textiles - Tyre cord warp - Sheet polyamide dipped
15.	16126 : 2013	Textiles - Waterproof tarpaulins made from polyester fabric - Specification
16.	15891 ( Part 1 ) : 2011	Textiles test methods for non – Wovens: Part 1 Determination of mass per unit area
17.	15891 (Part 2) : 2011	Textiles Test Methods For Non –Wovens: Part 2 Determination of thickness
18.	15891 (Part 3) : 2011	Textiles - Test method for nonwovens: Part 3 Determination of tensile strength and elongation
19.	15891 (Part 4) : 2011	Textiles - Test methods for nonwovens: Part 4 Determination of tear resistance
20.	15891 (Part 6) : 2012/ ISO 9073-6 : 2000	Test methods for nonwovens: Part 6 Absorption
21.	15891 (Part 7) : 2012/ ISO 9073-7 : 1995	Textiles - Test methods for nonwovens: Part 7 Determination of bending length
22.	15891 (Part 8) : 2012/ ISO 9073-8 : 1995	Textiles - Test methods for nonwovens : Part 8 Determination of liquid strike through time simulated urine
23.	15891 (Part 9) : 2012/ ISO 9073-9:2008	Textiles - Test methods for non-Wovens: Part 9 Determination of drapability including coefficient
<b>New Standards under Formulation</b>		
<b>SI No.</b>	<b>Document No.</b>	<b>Title</b>
1.	TXD 33 (10285)	Textiles - Test methods for nonwovens: Part 5 Determination of resistance to mechanical penetration ball burst procedure
2.	TXD 33 (10286)	Textiles - Test methods for nonwovens: Part 11 Run-off
3.	TXD 33 (10287)	Textiles - Test methods for nonwovens: Part 12 Demand absorbency
4.	TXD 33 (10288)	Textiles - Test methods for nonwovens: Part 13 Repeated liquid

		strike-through time
5.	TXD 33 (10289)	Textiles - Test methods for nonwovens: Part 14 Coverstock wetback
6.	TXD 33 (10290)	Textiles - Test methods for nonwovens : Part 15 Determination of air permeability
7.	TXD 33 (10291)	Textiles - Test methods for nonwovens: Part 16 Determination of resistance to penetration by water hydrostatic pressure
8.	TXD 33 (10292)	Textiles - Test methods for nonwovens: Part 18 Determination of breaking strength and elongation of nonwoven materials using the grab tensile test
9.	TXD 33 (01314)	Textiles - Test methods for nonwovens: Part 10 Lint and other particle generation in the dry state
10.	TXD 33 (01315)	Textiles - Test methods for nonwovens :Part 17 Determination of water penetration spray impact

**Sectional Committee: Technical Textiles for Agrotech Applications, TXD 35**  
[txd@bis.gov.in](mailto:txd@bis.gov.in)

**E-Mail:**

SL. No.	IS No.	Title
1.	15351 : 2015	Agro textiles - Laminated high density polyethylene (HDPE) woven geomembrane for water proof lining - Specification ( <i>second revision</i> )
2.	15907 : 2010	Agro textiles - High density polyethylene (HDPE) woven beds for vermiculture
3.	16008 ( Part 1 ) : 2016	Agro textiles - Shade nets for agriculture and horticulture purposes – Specification: Part 1 Shade nets made from tape yarns ( <i>first revision</i> )
4.	16008 ( Part 2 ) : 2016	Agro textiles - Shade nets for agriculture and horticulture purposes – Specification: Part 2 shade nets made from mono filament yarns ( <i>first revision</i> )
5.	16190 : 2014	Agro textiles - High density polyethylene (HDPE) laminated woven lay flay tube for irrigation purpose - Specification
6.	16202 : 2014	Argo textile - Woven ground covers for horticulture application - Specification
7.	16366 : 2015	Glossary of terms used in agrotextile
8.	16390 : 2015	Agro textiles - Nylon knitted seamless gloves for tobacco harvesters - Specification
9.	16513 : 2016	Agro textiles - Insect nets for agriculture and horticulture purposes - Specification
<b>New Standards under Formulation</b>		
1.	TXD 35 (10623)	Textiles - Polypropylene spun bonded non-woven crop cover fabric for agricultural and horticultural applications - Specification
2.	—	Agro textiles - High density polyethylene (HDPE) laminated woven lay flat tube for use in mains and submains of drip irrigation system - Specification
3.	—	Agro textiles – Specification for bird protection nets
4.	—	Agro textiles- Specification for hail protection nets
5.	—	Agro textiles – PP non woven bunch covers
6.	—	Agro Textiles: Manmade multifilament woven fabric coated with polymer for pond lining applications-Specifications



**MEDICAL EQUIPMENT & HOSPITAL PLANNING DEPARTMENT (MHD)**

**Sectional Committee: Orthopaedic Instruments, Implants & Accessories, MHD 2 E-**  
**Mail:**[mhd@bis.gov.in](mailto:mhd@bis.gov.in)

SI No.	IS No.	Title
1	2304 : 1987	Specification for Plastic cervical collar
2	12375 (Part 2) : 1993/ ISO 7206/2:1996	Implants for surgery - Partial and total hip joint prostheses: Part 2: Articulating surfaces made of metallic ceramic and plastic materials ( <i>first revision</i> )

**Sectional Committee: Dentistry, MHD 8**  
**Mail:**[mhd@bis.gov.in](mailto:mhd@bis.gov.in)

E-

SI No.	IS No.	Title
1	3890 (Part 1) : 1986	Specification for Instruments, Plastic filling, Dental: Part 1 Designation numbers 1, 3, 4, 5 and 6
2	3890 (Part 2) : 1967	Specification for instruments, Plastic filling, Dental: Part 2 Designation numbers 12, 20, 21, 46, 47, 153 and 183
3	5541:1970	Specification for spatula, plastics, clear and colorless, dental
4	15311 (Part 2) : 2003/ ISO 1797-2 : 1992	Dental rotary instruments – Shanks: Part 2 Shanks made of plastics

**Sectional Committee: Anaesthetic, Resuscitation & Allied Equipment, MHD 11 E-**  
**Mail:**[mhd@bis.gov.in](mailto:mhd@bis.gov.in)

SI No.	IS No.	Title
1	8432 : 1977	Specification for tubes, Tracheotomy (rubber or plastics) (Draft Amendment under publication)

**Sectional Committee: Hospital Equipment and Surgical Disposable Products, MHD 12 E-Mail:**  
**mhd@bis.gov.in**

SI No.	IS No.	Title
1	6208:1971	Spoons, plastics, measuring medicine
2	5102:2002/ ISO 3826: 1993	Plastics collapsible containers for human blood and blood components
<b>New Standards under Formulation</b>		
SI No.	Document No.	Title
1.	MHD 12(0326) /ISO 3826-1: 2013	Plastics collapsible containers for human blood and blood components: Part 1 Conventional containers [ <i>first revision of IS 15102:2002</i> ]
2.	MHD 12(0327) /ISO 3826-2: 2008	Plastics collapsible containers for human blood and blood components: Part 2 Graphical symbols for use on labels and instruction leaflets [ <i>first revision of IS 15102:2002</i> ]
3.	MHD 12(0328) /ISO 3826-3: 2006	Plastics collapsible containers for human blood and blood components: Part 3 Blood bag systems with integrated features



## **LIST OF PRODUCTS SUGGESTED BY THE COMMITTEE**

The plastic products applications are spread in various streams. The stream wise list of products suggested is as below

### **i) Thermoforming, Packing, Storage and Textile,**

Thermoforming is considered to be one of the most cost effective processes in plastic manufacturing because of the low moulding costs and fast moulding cycles. The use of disposable items is increasing day by day because of growing hygiene consciousness, low cost, easy usability and impressive appearance. The new carry away fast food culture has created the demand for the articles to pack food item. These articles consist of variety of packing boxes such as small tumblers, bowls, etc. Apart from this the use of blisters for packing pencil cell, toothbrushes, pens and variety of toys etc. has also been on the rise. Looking to the advantage of thermoformed product, the demand has increased in various sectors for packaging and disposable cups, boxes etc. Some of the major sectors where thermoformed products are used are Food Industries, Pharmaceutical, Electronics, and Horticulture, Cosmetics, Automobile Industry etc.

The commercial success of plastics as a packaging product is due to a combination of flexibility (from film to rigid applications), strength, lightness, stability, impermeability and ease of sterilisation. These features make plastics an ideal packaging material for all sorts of commercial and industrial users. Plastics food packaging, for instance, does not affect the taste and quality of the foodstuff. In fact, the barrier properties of plastics ensure that food keeps its natural taste while protecting it from external contamination. Moreover, the material's unparalleled versatility is demonstrated in a multitude of applications such as packaging films for fresh meats, bottles for beverages, edible oils and sauces, fruit yoghurt cups or margarine tubs. Some of the benefits offered by plastics packaging are:-

**The lightest packaging material:** Lightweight packaging means lighter loads or fewer lorries needed to ship the same amount of products, helping to reduce transportation energy, decrease emissions and lower shipping costs. It also helps reduce the amount of waste generated.

**Food conservation and preservation;** Plastics packaging protects and preserves perishable food for longer. It helps reducing waste and the use of preservatives while maintaining the taste and nutritional value of food.

**Convenient and innovative:** Nowadays people want packaging with clear identification and labeling which is easy to open and use. Plastics packaging evolves to provide exactly that. In the near future, for instance, it will integrate printable RFID (Radio-frequency identification) chips based on conductive polymers, providing precious information on the quality and status of products.

Safe and Hygienic: Safe and hygienic: Plastic packaging protects against contamination of foods and medicine and helps prevent the spreading of germs during manufacture, distribution and display. Tamper-proof closures provide additional protection and security, while transparent packaging allows people to look at food without having to touch it, cutting down on bruising and other damage. The list of some the products are as below:-

List of products			
Sr. No.	Name of Product	Existing Standards of product, if any	Suggested standard
1.	Textiles - Polypropylene (PP) block bottom valve sacks for packaging of cement		
2.	Textiles - High density polyethylene (HDPE) / polypropylene (PP) woven sacks for packing polymer materials		
3.	Textiles - Polypropylene spun bonded non-woven crop cover fabric for agricultural and horticultural applications		
4.	Textiles-Specification for bird protection nets		
5.	Textiles- Non woven ground covers for horticulture applications		
6.	Specification for anti hail nets		
7.	Specification for bunch covers		
8.	Agro Textiles - Manmade Multifilament Woven Fabric Coated with Polymer for Pond lining Applications		
9.	Geo-synthetics - Specification for needle punched non wovengoebags for coastal and waterways protection		
10.	Geo-synthetics - Specification for polypropylene multifilament woven geotextile-bags for coastal and waterways protection		
11.	Specification for geo-grids used as reinforcement of base and subbase layers in pavement structures		
12.	Specification for geogrids used as soil reinforcement in mechanically stabilised earth (MSE) retaining		
13.	Medical textiles - Nonwoven gauze swab with X-ray and without X-ray detectable thread (sterile and non-sterile) – Specification		
14.	Medical Textiles - Nonwoven bandage rolls – Specification		
15.	Medical textiles -Nonwoven laparotomy sponges with X-ray and without X-ray		
16.	detectable thread (sterile and non-sterile) – Specification		
17.	Medical Textiles-Permeable non-woven surgical adhesive tape-Specification		
18.	Textiles- Woven sacks laminated/coated with BOPP/Non woven/paper for bulk packaging		
19.	Textiles - Woven sacks laminated with aluminium foils for milk powder packaging		

20.	Agro textiles — High density polyethylene (HDPE) laminated woven lay flat tube for use in mains and submains of drip irrigation system		
21.	LDPE Blow Moulded water Storage Tank		
22.	PE Non oven fabric		
23.	Medical packing like Blister packs, clamshells, safedge trays and standard medical trays.		
24.	Stretch & cling films		
25.	Air Dunnage bag		
26.	Bubble / foam roll bags.		
27.	High performances multilayer film for various applications for civil and agriculture.		
28.	Cross linked and blended PE foam		
29.	Roto moulded crates, Pallets, Dustbin, vaccum formed crates & profiles, PP Corrugated sheet crates, fabricated crates with textile dunnage.		
30.	Medical clamshell for protective medical packaging		
31.	Lidstock trays for sterilization of medical instrument		
32.	Multi-functional medical handling trays for storage and transport of medicinal products		
33.	Flocking thermoforming plastic trays for medical applications		
34.	Thermoformed blisters for medicinal applications for storage of tablets etc.		
35.	PET Thermoforming Boxed for Food Packaging		
36.	Plastic packaging trays for Food Packaging.		
37.	Packaging boxed for daily based food items		
38.	Thermoformed disposable glasses/cups for food and beverage utility applications		
39.	Personal Workstation trays for Cosmetic Packaging.		
40.	Windowed Carton for Smart Phone accessory packaging.		
41.	Electrostatic dissipative or anti static coating based thermoforming trays for packaging in electronic industry		
42.	PCB Based handles for packaging in electronic industry.		
43.	Molded HDPE suitcase and luggage		
44.	Crates: (Different types of Bottles, Fishing,		

	Fruits & Vegetables, and Bakery Crates)		
45.	Battery Casing : (Automotive, household and all Industrial Purpose) Multilayered Packaging film.		
46.	Specification for Containers for Cosmetic Products.		
47.	Specification for Plastic Juicer.		
48.	Specification for Insulated lunch packs container.		
49.	Specification for Ice-tray in refrigerator		
50.	Specifications for Plastic milk cans.		
51.	Specification for plastic casseroles for food storage		
52.	Specification for Polyester/PVC/BOPP holographic film flexible packaging, decoration and labeling.		

**ii) Fiber Glass Reinforcement Plastics - Building and Civil Constructions and Other Applications**

Plastic materials are widely used in building and construction industry such as insulation, piping, window frames and interior design, wall partition, conduit etc. This growth is mainly due to plastics' unique features, which include designing innovative shapes, features and dimensions. Their characteristics are constantly improved, contributing to reducing the cost and increasing the efficiency of buildings. Durability and resistance to corrosion of Plastics make them ideal for applications such as window frames and pipes, their anti-corrosion properties provide them with an impressive life span which can reach over 50 years for plastic pipes and underground and exterior cables. The new products are being developed with better properties for wide range of applications.

The demand for plastics in construction-related applications continues to grow and continue to substitute more traditional materials. In applications such as pipes deliver value through improved performance, ease of handling/installation and versatility and design flexibility.

Similarly wide range of Fiber Reinforced Plastic products are being developed and launched in the market in all the area of applications due to their design, flexibility, easy to tailor the properties of FRP products as required in application.

**List of products;**

<b>Sr. No.</b>	<b>Name of Product</b>	<b>Existing Standards of product, if any</b>	<b>Suggested standard</b>
1.	HDPE Steel Reinforced Polyethylene Corrugated Pipe		
2.	Thermoset Polyester FRP Tiles		
3.	HDPE Plastic Fencing		
4.	PVC Plastic PVC Doors		
5.	R PVC PVC Pipe Flange Moulded		
6.	Expansion joint filers and Anti seismil (damp proof ) foam for building		
7.	FRP Pultruded profile for various building & Construction applications		
8.	FRP fins for building		
9.	FRP Chemical storage tank		
10.	FRP mating for providing protection against damage in building structures.		
11.	FRP canopies for building / protecting house from rain & sunlights		
12.	FRP moulded grating for big store room.		
13.	FRP full grid		
14.	FRP bath tubes		
15.	FRP Pultruded for FRP cable trays		
16.	FRP doors & frames for building.		
17.	FRP roofing sheets		
18.	FRP battery and storage racks		
19.	FRP poles for street light and lamp post.		
20.	Specification of FRP slide done.		
21.	Specification for FRP/ GRP ladder used for industrial applications.		
22.	Specifications for FRP/GRP fuel tank for petrol pumps		
23.	Specification for plastics tents for temporary – shelter / tent/ canopy.		
24.	DMC/ SMC insulators		
25.	SMS / DMC connection terminals and neutral links for electrical applications.		
26.	FRP Gas Cylinder for Industries & Household		
27.	Garbage Bins made up of HDPE or FRP Industries, Municipalities & household		
28.	FRP for full Boat or play items in fantasy parks, playgrounds etc for fishing and boating industries		
29.	Bamboo–Jute Polymer Composite Doors, Windows & Ventilator for Building / Constructions		
30.	Glass filled Nylon – 66 insulating liners for		



	roadway track		
31.	Drop wire cables for telephone lines		
32.	uPVC Cam lock pipe used for portable water supply – KMC MCL		
33.	Column pipe for submersible pump		
34.	Submersible water pump with plastic body		
35.	FRP Slide dome.		
36.	High temperature Application – PEEK Film		
37.	FRP/GRP chequered plates used for high voltage applications.		
38.	FRP/GRP label tray for high voltage cables.		

### iii) Civil Engineering / Industrial / Infrastructure

Geo membranes are one of the fastest growing types in the geo synthetics market. They are manufactured from various materials such as HDPE, LDPE, PP, PVC, EPDM and others. Geo membranes find wide application in water management, waste management, mining, tunnel liners and others. The increasing necessity to conserve fresh water sources and prevent water pollution is expected to increase the demand for geo membranes significantly. Other applications such as irrigation canals, decorative ponds, floating baffles, and so on are also expected to increase the demand for geo membranes in the water management application segment during the forecast period. Growth is attributed to the stringent regulations on water and waste management and the growing applicability of geo membranes in roadways construction, oil & gas sector, canal linings, and others. Some of the lists of products are given below:-

#### List of products:

Sr. No.	Name of Product	Existing Standards of product, if any	Suggested standard
1.	Terminology / Test Method / Specification of Geomembrance having main component of synthetic Polymers like PE, PP, PVC, EPDM or other ones.		
2.	Geosynthetic: A synthetic or natural material in the form manufactured sheet, strip or panel, used in geotechnical, environmental, hydraulic and transportation engineering applications.		
3.	Geogrid: A polymeric structure, unidirectional or bidirectional, in the form of manufactured sheet, consisting of regular network of integrally connected elements, which may be linked by extrusion bonding or interlacing whose openings are larger than the constituents , used in geotechnical, environmental, hydraulic and transportation engineering applications		

4.	Geonet: A polymeric structure, in the form of manufactured sheet, consisting of regular network of integrally connected overlapping ribs, used in geotechnical, environmental.		
5.	Geomat: A polymeric structure, in the form of manufactured sheet, consisting of a non-regular network of fibres, yarns, filaments, tapes or other elements used in geotechnical, environmental, hydraulic and transportation engineering applications.		
6.	Geocell: A polymeric cellular structure, consisting of a regular open network of connected strips used in geotechnical, environmental, hydraulic and transportation engineering applications.		
7.	Geocomposite: An assembled polymeric material, in the form of manufactured sheet or strip, consisting at least of one geosynthetic among the components, used in geotechnical, environmental, hydraulic and transportation engineering applications.		
8.	Biomat: A permeable, natural polymeric material, in the form of manufactured sheet, constituted of fibers used in geotechnical, environmental, hydraulic and transportation engineering applications.		
9.	Bionet: A permeable, natural polymeric material, in the form of manufactured sheet, consisting of regular network of knotted or interlaced yarns used in geotechnical, environmental, hydraulic and transportation engineering applications.		
10.	uPVC cam lock pipes for portable water supplies.		
11.	Column pipes for submersible pump.		
12.	PVC Plastic Pipe schedules 40, 80 and 120 for plumbing applications.		
13.	Moulded PP Co-polymer squatting pan for sanitary use for community sanitations.		
14.	PVC water proofing film for water proof lining for use in canals, ponds accessories, tunnels, industrial effluent and roofing.		
15.	Plastics Tents for temporary shelter/tent/canopy		

#### iv) Electrical, Electronic, Household Products and Furniture

Many of the latest devices from simple cable to house hold appliances, Electrical switches, distribution board to smart phones etc created in the Electrical & Electronic sector capitalize on new generation plastics and new products being launched in the market place. It is due to versatility of plastics which contribute significantly to innovation in the electrical and electronic sector. Designers of electrical and electronic applications rely on plastics because of their unique features. These include Resource-efficiency, Light weight, Good insulation and Electrical Resistance, Fire safety etc. Every day new products are being launched with unique feature which are influencing life style of each and every one. For safety and performance of these items, their quality norms need to be fixed through the standards.

Plastic molded furniture has virtually exploded in the Indian scenario .The popularity of plastic furniture has grown since it offers features unavailable in conventional wooden and metal furniture such as easy maintenance, light weight, durability and economy. Plastic furniture is essentially based on polypropylene (PP) which contains homo polymer to provide rigidity and copolymer to lend impact. Filler is incorporated to enhance rigidity and provide economy. UV stabiliser system is incorporated to impart good outdoor life and antistatic additives to reduce dust collection. The list of some the products are as below:-

#### List of products

Sr. No.	Name of Product	Existing Standards of product, if any	Suggested standard
1.	HDPE Plastics Trolley Moveable for Gas Cylinder		
2.	PVC Sheet ATM / Voter/Smart Card / Identity card		
3.	HDPE Artificial Turf		
4.	Polyester Fiber Soft Pillow		
5.	Passenger car sheet for Automobile Industries		
6.	Mosquito and Fishing nets household and fisheries		
7.	Molded PP Co Polymer Squatting pan for sanitary use for community sanitations		
8.	PP Plastics mat for household application		
9.	Cistern for bathroom		
10.	Specification for poly carbonate insulator for overhead telegraph and telephone lines.		
11.	Specification for electrical resistance for conducting and antistatic products made from flexible polymeric material: Presently available standard BSI: 2050.		
12.	Specification for drop wire cables for telephone line.		
13.	Specification for Polycarbonate round lights cover for traffic signal (IS 1975 can be expanded)		
14.	Specification for switchboard cable for telephone switchboard application in high – rise building office and factories: Presently manufactured as per ITD specifications / WS 113C		

15.	Specifications for glass filled Nylon 66 – insulating lines for roadways track. ISQC 301200 1993 / IECQ301200 can be expanded and specified)		
16.	Specifications for Metalized Polyester Capacitors/Metalized Polypropylene Capacitors		
17.	Specified for mobile phone hand set casing		
18.	Specification for Anti riot shield and plastic lathi in place of cane sheet and wood for Police.		
19.	Specification for insulation hybrid composite for replacement of ceramic		

#### v) Agriculture and Irrigation

Modern agriculture is based on a wide spectrum of plastic products. From irrigation systems through greenhouse technologies, protective nettings, soil covers, plastics for animal husbandry, food packaging, and more. The level of sophistication in both the production and uses of plastics in agriculture is increasing continuously. The innovations in plasticulture are translated into practices that support agriculture around the globe, for improving the production, quality and food safety. Special effort is put into adapting and disseminating advanced plasticulture approaches in both developed and developing countries. The new products and technologies are targeted toward different types of growers, from large commercial companies all the way to the small private farmers. The increased awareness of the environment and human well being has led to market demands for eco-friendly agriculture. Plasticulture is developing along this line, including plastics applications for substituting harmful chemicals, degradable products and plastics recycling.

#### List of products

S. No.	Name of Product	Existing Standards of product, if any	Suggested standard
1	LDPE Lay Flat Flexible Polyethylene hose for Agriculture		
2	HDPE Black Root Trainer PE Sheet (Thickness > 250 Microns) for Agriculture and Packing Industries		
3	Moulded thermoplastics – PP root trainer for sericulture application		
4	Rain gun used in irrigation field		
5	Specification for Moulded thermoplastic HDPE/PP root trainer for Sericulture.		

**User of Products:** Irrigation, Fisheries and civil departments.

**Standard Followed:** ASTM – D- 3083 is being presently followe

#### vi) Health Care and Medical Equipments

Modern healthcare would be impossible without plastics medical products we tend to take for granted, disposable syringes, intravenous blood bags and heart valves, etc. Plastics packaging is particularly suitable for medical applications, because of their exceptional barrier properties, light weight, low cost, durability, transparency and compatibility with other materials. People are living better, longer and have increasingly fulfilling lives.

## List of products

Sr.No	Name of the Product	Existing Standards of product, if any	Suggested standard
1	Non Oven Fabric Disposable Plastic Mask		
2	EVA Gloves for Health Care		
3	Medical Appliance and equipment like catheter tube, blood bags, syringes, and urine pot etc.		
4	Polyethylene Caps, needle tube for medical packaging & waste bags		
5	Polycarbonate cardiomoty, reservoir blood centrifuge bowls and hemodialyzers		
6	Polyster based catheters and surgical instruments		
7	High impact polystyrene for house test kits and diagnostic equipments housing		
8	Polyurethane connectors, catheters, tubing & drug delivery system		
9	Polypropylene syringe & specimen collection		
10	Polystyrene based petri dishes, lab wares & test tubes.		
11	Specification for Medical appliances & equipment such as Cather tube, blood bags, urine pot etc.		

### vii) General Applications

Sr.No	Name of the Product	Existing Standards of product, if any	Suggested standard
	PVC Flex Cloth, Polyethylene Foam MCR Chappal, PP/ HDPE Yoga Mat ,PP & Nylon Tooth Brush, HDPE Garbage container ,PP/ HDPE Plastics Industrial Helmet, Footwear products, Household & consumer products, plastic Basket Chopping Board, baby Chairs, Cutlery, Disposable Goods, Ice Tray, Plastic Juicer, Plastic Rack, Stool, Plastic Strainer, Plastic Rack Trolley, Ropes & Hangers, Tooth Brush, Casserole, Vacuum Flask, Insulated Lunch Pack, Insulated Water bottle, Insulated Jugs, Plastic Bowl, Containers, Fridge Bottles, Plastic Glass, Plastic Jugs glass & Mugs, Pencil Box, Plastic Pouches, Tiffin Box, Plastic Tray, Water Bottle, Baby Pot, Tubs and Basnis, Bucket & Drums, Cloth Clips & Laundry basket, Cleaners & Wipers, Cleaners, Body Scrubber, Toilet Brush, Tub, Plastic Cookware, Car Accessories Stationery Items, Hair Accessories, Luggage, Umbrella, Utensils, Home Décor, Sunglass, Watch etc		

**Exclusive Indian Standards not available for the following tests;**

1. Toxicity test for plastics
2. Identifications of Plastics
3. Filler Content
4. Puncture resistance of Geomembrane
5. Rupture resistance test for Geomembrane
6. Water Permeability coefficient for membrane
7. Master Batches

**Standardization for Nano – Materials and Product:**

Standardization in the field of nanotechnologies requires attention on the following:

Nanotechnology is an emerging concept in the field of science and technology. The existing products are improved as well as new products are being created by using materials and structure of nanoscale dimension. For the technology to meet the high expectations associated with requires deliberation and understanding on how and why, nanoscale materials perform. There is need for protocols in the area of nano-Technology materials:

1. Terminology/definitions.
2. Protocols for toxicity testing of nano particles.
3. Due considerations to be given to develop standard and guidelines to use on how health safety and environments are affected while handling on processing of Nano materials.
4. Protocols for evaluation of environmental impact of nano particles.
5. Existing methods of tests may not be suitable for nanoscale device and nano scale dimensions.
6. Measurement techniques and instruments need to be developed and/or standardized.
7. New certificate reference materials are needed for validation of test instruments at nano scale.
8. Multi-functional nano technology system and devices will need new standards.

**Synthetic Fibre**

Further formulation of following standards are urgently required to be in place in order to protect the domestic producers from inferior quality products to the country.

- a) Polyester Textured Filament Yarns (HS Code 5402.3300)
- b) Polyester Staple Fibres (HS Code 5503.2000)
- c) Polyester Partially Oriented (POY) Yarns (HS Code 5402.4600.00)
- d) High Tenacity Polyester Filament Yarn (HS Code 54029000)
- e) High Tenacity Nylon Filament Yarn (HS Code 54021910)

In addition to above we should also have the standards at place for following products.

- a) Siliconised polyester hollow conjugate fibres for filling applications e.g. in pillows/sofas etc.
- b) Polyester sheets/blocks for cushioning e.g. in bed mattresses, railway berths etc.
- c) Long Lasting Insecticidal Nets (LLIN) made from Polyester
- d) PVC/PU coated polyester fabrics for upholstery

#### **Existing India Standards:**

Further the list of Indian standards already developed by BIS in the different technical committees is given in **Annexure III**.

#### **Indian Standards under drafting stage:**

1. Sterile Hypodermic needles for single use requirements and Test methods.
2. Small bore connectors for Liquid and Gases in Health care applications.
3. Cardiovascular implants and artificial organs – Blood-gas exchanges (Oxygenators).
4. Infusion equipments for Medical use.
5. Sterile single use syringes, with or without needle for Insulin.
6. Oriented Un-plasticized Polyvinyl Chloride (PVC-O) pipes for the conveyance of water under pressure – Specification
7. Windows and Doors manufactured from UWDA uPVC

#### **Formulation of New Indian Standards under PCD 12, 27 under process:**

1. Plastics Post-consumer polyethylene Terephthalate PET bottle recycles Part 1 Designation system and basis for specifications
2. Plastics Post-consumer polyethylene terephthalate PET bottle recycles Part 2 Preparation of test specimens and determination of properties
3. Plastics Mixtures of polypropylene PP and polyethylene PE recycle derived from PP and PE used for flexible and rigid consumer packaging Part 1 Designation system and basis for specification
4. Plastics Mixtures of polypropylene PP and polyethylene PE recycle derived from PP and PE used for flexible and rigid consumer packaging Part 2 Preparation of test specimens and determination of properties
5. Safety of toys Part 4 Swings slides and similar activity toys for indoor and outdoor family domestic use [IS 9873 (Part 4)]
6. Safety of toys Part 5 Determination of total concentration of certain elements in toys [IS 9873 (Part 5)]
7. Safety of toys Part 8 Age Determination Guidelines [IS 9873 (Part 8)]
8. Safety of toys Part 6 Determination of certain phthalate esters in toys and childrens products [IS 9873 (Part 6)]
9. Safety of toys Part 9 Certain phthalates esters in toys and childrens products [IS 9873( Part 9)]

10. Plastics - Methods of testing : Part 3 physical and dimensional properties : Section 10 Determination of Density of Non-Cellular Plastics Immersion method liquid pycnometer method and titration method [13360 (Part 3/Sec 10)]
11. Plastics - methods of testing : Part 3 physical and dimensional properties : Section 11 Determination of Density of Non-Cellular Plastics Density gradient column method [13360 (Part 3/Sec 11)]
12. Plastics - methods of testing : Part 3 physical and dimensional properties : Section 12 Determination of Density of Non-Cellular Plastics Gas pycnometer method [13360 (Part 3/Sec 12)]

### **Standards Requiring Modifications/Updation;**

**It was discussed that some of the existing Indian standard does not cover entire manufacturing range of our Indian Industries so industry depends on other National and International standards for their higher size/ range of product. So It is suggested to modify and upgrade the range of the existing Indian standards for the products listed below.**

- A) IS 4984 does not covered following Sizes hence it is supplied as per International Standard.
  1. HDPE pipes greater than 1000mm and up to 2000mm as per ISO 4427 and EN 12201.
  2. HPDE fittings greater than 1000mm and up to 2000mm as per ISO 4427 and EN 12201.
  3. Blue water pipe as per ISO 4427.
- B) IS 14885 does not cover black color gas pipe hence it is supplied as per ISO 4437.
- C) IS 14333 does not cover sewerage pipes and Fittings greater than 1000mm and up to 2000mm, hence it is supplied as per ISO 4427.
- D) IS 9271 does not cover HDPE single wall corrugated pipe for sub soil drainage, hence it is supplied as per ISO 21138.
- E) IS 12786 does not cover PE laterals below 0.5mm wall thickness, hence it is supplied as per ISO 9261.
- F) IS 4985 does not cover following point hence it is supplied as per International Standard.
  1. Plumbing pipes for building as per ASTM D 1785 (Sch 40,80 & 120)
  2. Fittings required for Sch 40 & 80 are not available in IS, Hence fittings supplied as per ASTM D 2464 & ASTM D 2466.
  3. Pressure class above 12.5 are not available in IS 4985, Hence pipes & fittings supplied as per ISO 1452.
- G) For CPVC Fitting there is no such Indian standard available, hence fittings supplied as per ASTM F 441.
- H) For CPVC Solvent Cement there is no such Indian standard available, hence Solvent Cement supplied as per ASTM F 493.



## Standards needs to be mandated for Health Safety Issues

To promote availability of consistent, high quality products for the consumers, it is a policy of the Govt. to make standards mandatory for key applications; Industry has proposed the following BIS standards

IS 4229:1992 Textiles – Nylon sewing threads for aerospace purposes – Specification (second revision)

IS 7866: 1993 Textiles – Ring spun polyester blended grey yarn Specification (first revision)

IS 7867: 1975 Continuous filament textile polyamide (nylon) yarn

IS 9543: 1980 Spun polyester sewing threads

IS 15336: 2003 Textiles – Acrylic yarn for hosiery –Specification

**Further discussion was made that almost all the plastic material /plastic product uses various chemicals and additives, processing aids etc for improving process ability ato meet the functional requirements of product in end use application. These materials are produced and used in very large quantity. Some of these chemicals may have adverse impact on health and environment if required quality and quantity are not maintained. The Positive list of such chemicals and additives are defined in the Indian standards so these standards to be made mandatory.(Ms Nisha Bura to provide list of these Indian standards related to chemicals and additives to add in the list)**

**Further it was discuss that HDPE/PP Woven bag for packaging of Fertilizers, Chemicals, pesticides and cement to be made mandatory**

## Plastic Products

Sr. No	IS No	Title	Comments
1	IS 3076	Low Density Polyethylene Pipes for Potable Water Supplies	Pipes conveying potable water must meet the corresponding quality standard.
2	IS/ISO 5834 : Part 2	Implants for Surgery - Ultra-High - Molecular-Weight Polyethylene Part 2 Moulded Forms	Implants being in contact with body, best quality ensures the best performance and chances on infection due to contaminations are almost nil.
3	IS 7098 : Part 1	Crosslinked polyethylene insulated PVC sheathed cables: Part 1 For working voltage upto and including 1 100 V	Being electrical application, the performance of cables is very important to avoid the accidents and hazards.
4	IS 7098 : Part 2	Crosslinked Polyethylene Insulated Thermoplastics Sheathed Cables - Part 2 for Working Voltages from 3.3 kV up to and Including 33 kV	

5	IS 7098 : Part 3	Cross-linked polyethylene insulated thermoplastic sheathed cables: Part 3 For working voltages from 66 kV upto and including 220 kV	
6	<u>IS 4984</u>	High density polyethylene pipes for potable water supplies	Pipes conveying potable water must meet the corresponding quality standard.
7	IS 7803 : Part 1	Polyethylene Containers for Pharmaceutical Use - Part I : Other than Parenteral and Ophthalmic Preparations	Any contamination in container material may deteriorate the quality and performance of pharmaceutical contents stored which in turn may not be good for human health.
8	IS 8008 : Part 1	Injection Moulded/Machined High Density Polyethylene (HDPE) Fittings for Potable Water Supplies - Part 1 : General Requirements for Fittings	Quality of fittings is equally important along with pipes for best performance of water conveyance system which not only ensure lesser maintenance but also save precious resource i.e. water.
9	IS 8360 : Part 1	fabricated high density polyethylene (HDPE) fittings for potable water supplies: Part 1 General requirements	
10	IS 8360 : Part 2	fabricated high density polyethylene (MDPE) fittings for potable water supplies, Part 2 Specific requirements for 90 degree tees	
10	IS 9754	High Density Polyethylene Containers for Packing of Liquid Pesticides (up to 1 litre capacity)	Inferior quality of container may lead to leakages/breakages which may create health hazards to any living entity.
11	IS 11805	Polyethylene Pouches for Packaging Liquid Milk	Poor quality film may cause contamination in milk which ultimate may cause health hazards to person consuming the milk. Also poor quality can lead to leakages.
12	IS 12277	Polyethylene Glycol 400	
13	IS 12701	rotational moulded polyethylene water storage tanks	Being used for storage of water which includes potable water, quality can not be compromised.
14	IS 12786	Irrigation Equipment - Polyethylene Pipes for Irrigation Laterals	These products are used mainly to ensure the best utilization of available water and prevent the loss of fertilizers. Strict adherence to quality norms will help the farmers to achieve better quality
15	IS 14151 : Part 1	Irrigation Equipment - Sprinkler Pipes - Part 1 : Polyethylene Pipes	
16	IS 14151 : Part 2	Irrigation Equipment - Sprinkler Pipes : Part 2 Quick Coupled Polyethylene	

		Pipes and fittings	and quantity produce. It is in the national interest.
17	IS 14482	Irrigation Equipment - Polyethylene Micro Tubes for Drip Irrigation	
18	IS 14333	High Density Polyethylene Pipe For Sewerage -	Poor quality of pipe may lead to leakages which can contaminate ground water. It may lead to health hazards to humans using the ground water.
19	IS 16098 Part 2	Structured Wall Piping Systems for Non-pressure Drainage And Sewerage - Specification - Part 2: Pipes And Fittings With Non-Smooth External Surface, Type B	
20	IS 14537	Polyethylene Terephthalate (Pet) Bottles for Packaging of Alcoholic Liquors	
21	IS 14764	Polyethylene Terephthalate (PET) Containers for Packaging of Vanaspati	
22	<u>IS 15450</u>	Polyethylene/ Aluminium/ Polyethylene Composite Pressure Pipes for Hot and Cold Water Supplies -	As these pipes carry hot water, the failure of pipes due to bad quality may create accident situation/hazards.
23	IS 15609	Polyethylene Flexible Pouches for the Packing of Natural Mineral Water and Packaged Drinking Water	Drinking Water contamination is directly related to the health of the consumer hence quality of packaging films is very important.
24	IS 14885	Polyethylene Pipes for the Supply of Gaseous Fuels -	Application is very much sensitive and best quality is required for safe delivery of gaseous fuels. Any negligence on quality may create serious hazards/incidents.
25	IS 15927 : PART 2	Polyethylene Fittings for use with Polyethylene Pipes for the supply of Gaseous Fuels Specification Part 2 Spigot Fittings for Butt Fusion for Socket Fusion using Heated Tools and for use with Electro Fusion Fittings	
26	IS 15927 : Part 1	Polyethylene Fittings for use with Polyethylene Pipes for the Supply of Gaseous Fuels - Specification Part 1 Fittings for Socket Fusion using Heated Tools	
27	IS 15927 : PART 3	Polyethylene Fittings for use with Polyethylene Pipes for the Supply of Gaseous Fuels - Part 3 Electro Fusion Fittings	

28	IS 16190	Agro Textiles - High Density Polyethylene (HDPE) Laminated Woven lay Flay Tube for Irrigation Purpose - Specification	It is low cost version of plastic piping system which is very important for marginal farmers due to affordability of the product. The quality will ensure proper supply of available water without any leakages and will help in upliftment of small and marginal farmers.
29	IS 16475	Geosynthetics - Method of Test for Determination of 2 Percent Secant Modulus for Polyethylene Geomembranes	
30	IS/QC 300100	Fixed Capacitors for Use in Electronic Equipment Sectional Specification: Fixed Polyethylene-Terephthalate Film Dielectric Metal Foil DC Capacitors	
31	IS/QC 300400	Fixed Capacitors for Use in Electronic Equipment - Sectional Specification : Fixed Metallized Polyethylene-Terephthalate Film Dielectric DC Capacitors	
32	IS/QC 300401	Fixed Capacitors for Use in Electronic Equipment - Blank Detail Specification : Fixed Metallized Polyethylene-Terephthalate Film Dielectric D C Capacitors Assessment Level E	

### PVC Products

1	IS 4985:2000	Un-plasticized PVC Pipes for Portable water Supplies – Specification	Portable Water
2	IS 7634: part 3: 2003	Plastic Pipes selection, handling, storage and insulation for portable water supplies – Code of practice: Part 3 Laying and Jointing of PVC Pipes	Laying of pipes is very critical
3	IS 15328: 2003	Unplasticized non-pressure polyvinyl chloride (PVC-U) pipes for use in underground drainage and sewerage systems – Specifications	Sewerage should be different from portable water pipes.
4	IS 12818 : 1992	Specifications for unplasticized PVC screen and casing pipes for bore / tubewells.	Casing pipes applications critical

5	IS16098 – Part 1	Structural wall plastics piping systems for non-pressure Drainage and sewerage	Foam core pipes
6	IS 4761: 1968	Specifications for unsupported PVC rain wear	Body contact PVC application
7	IS 14995:2001	Stretch Cling Film	Food Contact application
8	IS 3462: 1986	Specification for unbacked flexible PVC flooring	Quality check required
9	IS 694:1990	PVC insulated cables for working voltage up to and including 1100 v	Quality check required
10	IS 1554 : Part 1: 1968	PVC insulated (heavy duty ) electrical cable : part 1 for working voltage up to and including 1100 v	Quality check required
11	IS 1554: Part 2: 1988	Specification for PVC Insulated (Heavy Duty) electric cables –Part2 : for working voltage from 3”3 kV up to and including 11kV	Quality check required
12	Draft under formulation	Oriented Un-plasticized Polyvinyl Chloride (PVC-O) pipes for the conveyance of water under pressure – Specification	Quality check required
13	Draft under formulation	Windows and Doors manufactured from UWDA uPVC	Quality check required

## ROAD SECTOR

1. IS 15910 – 2010 :Geo-synthetics for Highways – Specifications.- Mandating usage of Geotextiles to stabilize the Subgrades.
2. MORTH – Section 700 – Rev 5 :Specifications for Road & Bridge Works - Geosynthetics. - Mandating usage of Paving Fabrics in Overlays.- Mandating usage of Geogrids to reduce the crust thickness.
3. IRC SP 59 – 2002 :Guidelines for Use of Geotextiles in Road Pavements and Associated Works.-Mandating usage of Geotextiles to stabilize the Subgrades.
4. IRC 34 – 2011:Recommendations for Road Construction in Areas Affected by Water Logging, Flooding and / or Salts Infestation.-Mandating usage of Geonets / Geotextiles as Drainage layers. -Mandating usage of Geotextiles as Filters in subsurface drains.

5. IRC 113 – 2013 : Guidelines and Construction of Geo-synthetic Reinforced Embankments on Soft Sub Soils .-Mandating usage of Geotextiles / Geogrids / Geocells / PVDs in ground Improvement works.

## **RAILWAY SECTOR**

6. RDSO / 2007 / GE :0014  
Guidelines and Specifications for Design of Formation for Heavy Axle Load.
- Mandating usage of Geotextiles & Geogrids to stabilize existing weak formations.
  - Mandating usage of Geotextiles & Geogrids in New Formations to Reduce Thickness / Replace Conventional Blanket Layer.

## **RIVER SECTOR**

7. BIS / GFCC Draft Guidelines have been prepared Awaiting Publication of Standard.
- Mandating usage of Geotextile Bags for Flood / River Bank Protection Works.

## **BENEFITS FOR HAVING A STRONG STANDARD ECOSYSTEM IN THE COUNTRY**

### **STRENGTH**

- ❖ BIS is having well developed mechanism and Rules for development of new standards
- ❖ Technically competent Sectional Committee of BIS to coordinate Standards development.
- ❖ Testing facilities in India are equipped to conduct round robin test or proficiency testing as per international norms.
- ❖ Plastic testing centre's / facilities by CIPET are one of the best facilities in Asia, to be utilized for new standards development based on newer technologies / alternate processes.
- ❖ Availability of Technically Qualified manpower and training facility.

### **WEAKNESS**

- ❖ Regular participation of Industry in the International Standards Organization (ISO Technical Committee meetings).
- ❖ Industry member's participation in the BIS sectional Committee for finalization of BIS Standards.
- ❖ Resistance in voluntary adaptation of standards for quality compliance.
- ❖ Absence of quality standards when there is single manufacturer adopting different technology or new products.
- ❖ Regular upgradation of testing facilities of CIPET with modern testing facility keeping pace with the changing technology needs.
- ❖ Plastics have supplemented and substituted in all sectors of industry there by increasing the economic activity. There is no concerted effort by stake holder industry associations to spread the quality eco system, like awareness building, workshops, etc.

- ❖ Comprehensive data base on standards availability and code of practice and testing facilities availability in India.

## **OPPERTUNITIES**

- ❖ Plastics have penetrated in all sectors of economic activity like building construction, agriculture, medical & healthcare, infrastructure, consumer durables and non-durables, packaging, electrical & electronic, etc. This offers immense opportunity for sustainable development.
- ❖ Market Access
  - Removes trade barriers by Global conformance leading to wider access and increase in exports.
  - Regulations may vary based on country and are hence restrictive but standards can provide necessary information for worldwide trading of products and services.
  - Increase in customer confidence in a company.
- ❖ Differentiation
  - Provides competitive advantage that becomes deciding factor between two comparable suppliers.
  - Innovators can differentiate products based on various quality standards.
- ❖ Dumping Reduction
  - Acceptance of Standards by Industry reduces dumping as standards act as a barrier for products that are non compliant.
- ❖ Best Practices and Innovation
  - Supports innovation as businesses need not reinvent wheel of reaching a level of technology first but can directly focus on newer technology.
  - Increase absorption of technology by stepping up to a level of standards which the industry is using.
  - Collaborative nature of standards promotes growth for entire industry.

## **THREATS**

- ❖ Technical Barriers to Trade (TBT) issued by different countries.
- ❖ Diminishing customs duty protection and increased globalization through Free Trade Agreements (FTAs)
- ❖ Large number of MSME sector operating with thin margins and inadequate quality compliance investment. (This reduces the competitiveness in the sustaining the export orders.
- ❖ Negative publicity on the non-biodegradable nature of the plastics (this is actually strength of the material in their application) often affects the sustained growth.
- ❖ Absence of active stakeholder associations participation to mitigate and build awareness on indiscriminate littering, recyclability, voluntary compliance in recycling standards, etc.