



# Standard Practice for Coding Plastic Manufactured Articles for Resin Identification<sup>1</sup>

This standard is issued under the fixed designation D7611/D7611M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

<sup>ε1</sup> NOTE—Editorially corrected adjunct information in September 2014.

## 1. Scope

1.1 This practice stipulates the types, names, and sizes of Codes for those material types specified in [Table 1](#).

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system are likely not to be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems is likely to result in non-conformance with the standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

NOTE 1—There is no known ISO equivalent to this standard.

## 2. Referenced Documents

### 2.1 ASTM Adjuncts:

Adjunct to D7611/D7611M Standard Practice for Coding Plastic Manufactured Articles for Resin Identification<sup>2</sup>

## 3. Terminology

### 3.1 Definitions:

3.1.1 *Resin Identification Code (RIC Code)*—a molded, imprinted or raised symbol or wording that consists of an equilateral triangle, a Resin Identification Number, and an Abbreviated Term for polymeric material in compliance with [Fig. 1](#) and [Table 1](#).

## 4. Significance and Use

4.1 Resin Identification Codes are used solely to identify the plastic resin used in a manufactured article.

4.2 Resin Identification Codes are not “recycle codes.” The use of a Resin Identification Code on a manufactured plastic article does not imply that the article is recycled or that there are systems in place to effectively process the article for reclamation or re-use. The term “recyclable” or other environmental claims shall not be placed in proximity to the Code.

4.3 This practice is based upon the system developed in 1988 by the Society of the Plastics Industry, Inc (SPI). It is possible that some states or countries will have incorporated the original SPI practice into statute or regulation. In those situations, that statute or regulation takes precedence over this standard.

4.4 This practice shall only apply to new tooling. Existing molds that already incorporate older versions of the SPI RIC may be modified, but modification is not required.

## 5. Requirements

5.1 The Code is to be molded, formed or imprinted on the manufactured article.

5.2 The Code shall be clear and legible.

5.3 The size of the Code shall normally equal or exceed 12 mm [ $\frac{1}{2}$  in.] in height and width.

NOTE 2—For small parts or components, it is not always possible to conform to these size requirements. In these cases, it is important to maximize the size and legibility of the Code.

5.4 The Code shall be placed in an inconspicuous location on the manufactured article, such as the bottom or the back, where it will not be obvious to the consumer at the point of purchase so it does not influence the consumer’s buying decision.

5.5 The Code shall be as shown in [Table 1](#). Option A is commonly found in North America. Option B is often found internationally. Either option is acceptable.

5.6 The numbering system within the equilateral triangle shall correspond to the generic class of resins shown in [Table 1](#).















5.7 The Code with the Resin Identification Number “1” and the Abbreviated Term “PETE” is reserved for manufactured articles produced from Poly(ethylene terephthalate).

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.95 on Recycled Plastics.

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<sup>2</sup> Available from ASTM International Headquarters. Order Adjunct No. ADJD761114-EA. Original adjunct produced in 2010. Adjunct last revised in 2014.

TABLE 1 Resin Identification Codes

Resin Identification Number	Resin	Resin Identification Code –Option A	Resin Identification Code –Option B
1	Poly (ethylene terephthalate)	 <b>PETE</b>	 <b>PET</b>
2	High density polyethylene	 <b>HDPE</b>	 <b>PE-HD</b>
3	Poly (vinyl chloride)	 <b>V</b>	 <b>PVC</b>
4	Low density polyethylene	 <b>LDPE</b>	 <b>PE-LD</b>
5	Polypropylene	 <b>PP</b>	 <b>PP</b>
6	Polystyrene	 <b>PS</b>	 <b>PS</b>
7	Other resins	 <b>OTHER</b>	 <b>O</b>

5.7.1 The Code with the Resin Identification Number “1” and the Abbreviated Term “PETE+” is reserved for manufactured articles produced from Poly(ethylene terephthalate) that

also contain at least one additional layer of a different material. This Code does not require the modification of existing tooling. This Code shall apply to all new tooling.

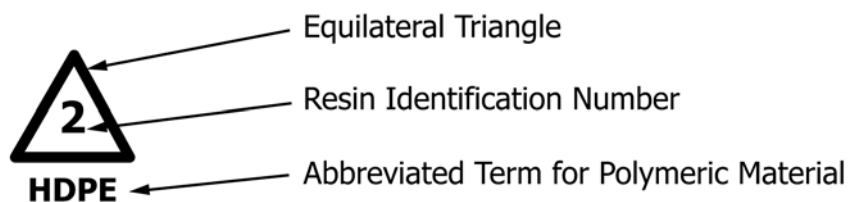


FIG. 1 Example of a Resin Identification Marker

5.8 The Code with the Resin Identification Number “2” and the Abbreviated Term “HDPE” is reserved for manufactured articles produced from High density polyethylene.

5.8.1 The Code with the Resin Identification Number “2” and the Abbreviated Term “HDPE+” is reserved for manufactured articles produced from High density polyethylene that also contain at least one additional layer of a different material. This Code does not require the modification of existing tooling. This Code shall apply to all new tooling.

5.9 The Code with the Resin Identification Number “3” and the Abbreviated Term “V” is reserved for manufactured articles produced from Poly(vinyl chloride).

5.9.1 The Code with the Resin Identification Number “3” and the Abbreviated Term “V+” is reserved for manufactured articles produced from Poly(vinyl chloride) that also contain at least one additional layer of a different material. This Code does not require the modification of existing tooling. This Code shall apply to all new tooling.

5.10 The Code with the Resin Identification Number Code “4” and the Abbreviated Term “LDPE” is reserved for manufactured articles produced from Low density polyethylene.

5.10.1 The Code with the Resin Identification Number “4” and the Abbreviated Term “LDPE+” is reserved for manufactured articles produced from Low density polyethylene that also contain at least one additional layer of a different material. This Code does not require the modification of existing tooling. This Code shall apply to all new tooling.

5.11 The Code with the Resin Identification Number “5” and the Abbreviated Term “PP” is reserved for manufactured articles produced from Polypropylene.

5.11.1 The Code with the Resin Identification Number “5” and the Abbreviated Term “PP+” is reserved for manufactured articles produced from Polypropylene that also contain at least one additional layer of a different material. This Code does not require the modification of existing tooling. This Code shall apply to all new tooling.

5.12 The Code with the Resin Identification Number “6” and the Abbreviated Term “PS” is reserved for manufactured articles produced from Polystyrene.

5.12.1 The Code with the Resin Identification Number “6” and the Abbreviated Term “PS+” is reserved for manufactured articles produced from Polystyrene that also contain at least one additional layer of a different material. This Code does not require the modification of existing tooling. This Code shall apply to all new tooling.

5.13 The Code with the Resin Identification Number “7” and the Abbreviated Term “OTHER” is reserved for manufactured articles produced from any polymer chemistry not described by any other Code.

## 6. Keywords

6.1 plastics; Resin Identification Code

## APPENDIX

### (Nonmandatory Information)

## X1. ADDITIONAL BACKGROUND INFORMATION

X1.1 This practice is based upon the original system developed in 1988 by the Society of the Plastics Industry, Inc (SPI), which offered a means of identifying the resin content of bottles and rigid containers commonly found in the residential waste stream. In 2011, 37 states have legislation in force regarding the use of resin identification codes consistent with the original SPI code. It also is in use in China, and the U. K. and is now recommended by the British Plastics Federation and PlasticsEurope (formerly the Association of Plastics Manufacturers in Europe).

X1.2 The Resin Identification Code system has become one means by which interested parties identify the resins used in various manufactured articles. Alternative resins and more selective end-of-life options (such as retailer take back programs) for manufactured articles have also emerged since 1988. Because of these changes, the RIC system as defined in this ASTM standard requires periodic updating.

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