United States Standards for Grades of Grapefruit (Texas and States other than Florida, California, and Arizona)

Effective November 30, 2020
This issue of the United States Standards for Grades of Grapefruit (Texas and States other than Florida, California, and Arizona) (85 FR 68421) supersedes the previous issue which has been in effect since September 5, 2003.

Voluntary U.S. grade standards are issued under the authority of the Agricultural Marketing Act of 1946, which provides for the development of official U.S. grades to designate different levels of quality. These grade standards are available for use by producers, suppliers, buyers, and consumers. As in the case of other standards for grades of fresh and processed fruits, vegetables, and specialty crops these standards are designed to facilitate orderly marketing by providing a convenient basis for buying and selling, for establishing quality control programs, and for determining loan values.

The U.S. grade standards and inspection instructions for all fresh and processed fruits, vegetables, and specialty crops are available on the internet and upon request at the address below. These documents provide detailed interpretations of the grade standards and provide step-by-step procedures for grading the product.

Grade standards are issued by the U.S. Department of Agriculture (USDA) after careful consideration of all data and views submitted during rulemaking. The Department welcomes suggestions for improving the standards in future revisions. Comments may be submitted to, and copies of standards and inspection instructions obtained from:

Director, Specialty Crops Inspection Division
Specialty Crops Program,
USDA, Agricultural Marketing Service
1400 Independence Avenue, SW, STOP 0240
Washington, D.C. 20250


Note: Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or with applicable State laws and regulations.

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“U.S. Fancy” consists of grapefruit which meet the following requirements:

(a) Basic requirements:

(1) Discoloration: Not more than one-tenth of the surface, in the aggregate, may be affected by discoloration. (See §51.638.);

(2) Firm;

(3) Mature;

(4) Similar varietal characteristics;

(5) Smooth texture;

(6) Well formed; and

(7) Well colored.

(b) Free from:

(1) Ammoniation;

(2) Bruises;

(3) Buckskin;

(4) Decay;

(5) Growth cracks;

(6) Scab;

(7) Skin breakdown;

(8) Sprayburn;

(9) Unhealed skin breaks; and

(10) Wormy fruit.

(c) Free from injury caused by:

(1) Green spots;
(2) Hail;
(3) Oil spots;
(4) Scale;
(5) Scars; and
(6) Thorn scratches.

(d) Free from damage caused by:
(1) Dryness or mushy condition;
(2) Insects;
(3) Sprouting;
(4) Sunburn; and
(5) Other means.

(e) For tolerances see §51.628.

§51.621 U.S. No. 1.

“U.S. No. 1” consists of grapefruit which meet the following requirements:

(a) Basic requirements:

(1) Discoloration: Not more than one-half of the surface, in the aggregate, may be affected by discoloration. (See §51.638.);
(2) Fairly smooth texture;
(3) Fairly well colored;
(4) Fairly well formed;
(5) Firm;
(6) Mature; and
(7) Similar varietal characteristics.

(b) Free from:

(1) Bruises;
(2) Caked melanose;
(3) Decay;
(4) Growth cracks;
(5) Sprayburn;
(6) Unhealed skin breaks; and
(7) Wormy fruit.

(c) Free from damage caused by:

(1) Ammoniation;
(2) Buckskin;
(3) Caked melanose;
(4) Dryness or mushy condition;
(5) Green spots;
(6) Hail;
(7) Oil spots;
(8) Scab;
(9) Scale;
(10) Scars;
(11) Skin breakdown;
(12) Sprayburn;
(13) Sprouting;
(14) Sunburn;
(15) Thorn scratches; and
(16) Other means.

(d) For tolerances see §51.628.
§51.622 U.S. No. 1 Bright.

The requirements for this grade are the same as for U.S. No. 1 except that no fruit may have more than one-tenth of its surface, in the aggregate, affected by discoloration.

(a) For tolerances see §51.628.

§51.623 U.S. No. 1 Bronze.

The requirements for this grade are the same as for U.S. No. 1 except that all fruit must show some discoloration and at least 10 percent, by count, of the fruit shall have more than one-half of their surface, in the aggregate, affected by discoloration. The predominating discoloration on each of these fruits shall be of rust mite type. For tolerances see §51.628.

§51.624 U.S. Combination.

“U.S. Combination” consists of a combination of U.S. No. 1 and U.S. No. 2 grapefruit: Provided, That at least 55 percent, by count, meet the requirements of U.S. No. 1 grade for defects, And provided further, That the lot meets the basic requirement for discoloration as specified in the U.S. No. 2 grade. For tolerances see §51.628.

§51.625 U.S. No. 2.

“U.S. No. 2” consists of grapefruit which meet the following requirements:

(a) Basic requirements:

   (1) Discoloration: Not more than two-thirds of the surface, in the aggregate, may be affected by discoloration. (See §51.638.);
   
   (2) Fairly firm;
   
   (3) Mature;
   
   (4) Not more than slightly misshapen;
   
   (5) Not more than slightly rough texture;
   
   (6) Slightly colored; and
   
   (7) Similar varietal characteristics.

(b) Free from:

   (1) Bruises;
(2) Decay;
(3) Growth cracks;
(4) Unhealed skin breaks; and
(5) Wormy fruit.

(c) Free from serious damaged caused by:

(1) Ammoniation;
(2) Buckskin;
(3) Caked melanose;
(4) Dryness or mushy condition;
(5) Green spots;
(6) Hail;
(7) Oil spots;
(8) Scab;
(9) Scale;
(10) Scars;
(11) Skin breakdown;
(12) Sprayburn;
(13) Sprouting;
(14) Sunburn;
(15) Thorn scratches; and
(16) Other means.

(d) For tolerances see §51.628.

§51.626 U.S. No. 2 Russet.

The requirements for this grade are the same as for U.S. No. 2 except that at least 10 percent of the fruit shall have more than two-thirds of their surface, in the aggregate,
affected by any type of discoloration. For tolerances see §51.628.

§51.627 U.S. No. 3.

“U.S. No. 3” consists of grapefruit which meet the following requirements:

(a) Basic requirements:
   (1) Mature;
   (2) May be misshapen;
   (3) May be slightly spongy;
   (4) May have rough texture;
   (5) May be poorly colored. Not more than 25 percent of the surface may be of a solid dark green color;
   (6) Not seriously lumpy or cracked; and
   (7) Similar varietal characteristics.

(b) Free from:
   (1) Decay;
   (2) Unhealed skin breaks; and
   (3) Wormy fruit.

(c) Free from very serious damage caused by:
   (1) Ammoniation;
   (2) Buckskin;
   (3) Caked melanose;
   (4) Dryness or mushy condition;
   (5) Green spots;
   (6) Hail;
   (7) Oil spots;
   (8) Scab;
(9) Scale;
(10) Scars;
(11) Skin breakdown;
(12) Sprayburn;
(13) Sprouting;
(14) Sunburn;
(15) Thorn scratches; and
(16) Other means.

(d) For tolerances see §51.628.

Tolerances
§51.628 Tolerances.

In order to allow for variations incident to proper grading and handling in each of the foregoing grades, the following tolerances, by count, based on a minimum 25 count sample, are provided as specified. No tolerance shall apply to wormy fruit.

(a) Defects.

(1) U.S. Fancy, U.S. No. 1, U.S. No. 1 Bright, U.S. No. 1 Bronze, U.S. No. 2, and U.S. No. 2 Russet.

   (i) For defects at shipping point.¹ Not more than 10 percent of the fruit in any lot may fail to meet the requirements of the specified grade: Provided, That included in this amount not more than 5 percent shall be allowed for defects causing very serious damage, including in this latter amount not more than 1 percent for decay.

   (ii) For defects en route or at destination. Not more than 12 percent of the fruit in any lot may fail to meet the requirements of the specified grade: Provided, That included in this amount not more than the following percentages shall be allowed for defects listed:

   (A) 10 percent for fruit having permanent defects; or

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¹ Shipping point, as used in these standards, means the point of origin of the shipment in the producing area or at port of loading for ship stores or overseas shipment, or in the case of shipments from outside the continental United States, the port of entry into the United States.

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(2) U.S. Combination.

(i) For defects at shipping point.¹ Not more than 10 percent of the fruit in any lot may fail to meet the requirements of the U.S. No. 2 grade: Provided, That included in this amount not more than 5 percent shall be allowed for defects causing very serious damage, included in this latter amount not more than 1 percent for decay.

(ii) For defects en route or at destination. Not more than 12 percent of the fruit in any lot may fail to meet the requirements of the U.S. No. 2 grade: Provided, That included in this amount not more than the following percentages shall be allowed for defects listed:

(A) 10 percent for fruit having permanent defects; or

(B) 7 percent for defects causing very serious damage, including therein not more than 5 percent for very serious damage by permanent defects and not more than 3 percent for decay.

(iii) For defects at shipping point¹ and en route or at destination. No part of any tolerance shall be allowed to reduce for the lot as a whole, the 55 percent of U.S. No. 1 fruit required in the U.S. Combination grade, but individual samples may have not more than 15 percent less than the required percentage for the grade: Provided, That the entire lot averages within the percentage required.

(3) U.S. No. 3.

(i) For defects at shipping point.¹ Not more than 10 percent of the fruit in any lot may fail to meet the requirements of the grade: Provided, That included in this amount not more than 1 percent for decay.

(ii) For defects en route or at destination. Not more than 12 percent of the fruit in any lot may fail to meet the requirements of the grade: Provided, That included in this amount not more than the following percentages shall be allowed for defects listed:

(A) 10 percent for fruit having permanent defects; or

(B) 3 percent for decay.
(b) Discoloration.

(1) **U.S. No. 1, U.S. No. 1 Bright, U.S. Combination, and U.S. No. 2.** Not more than 10 percent of the fruit in any lot may fail to meet the requirements relating to discoloration as specified in each grade; No sample may have more than 20 percent of the fruit with excessive discoloration: *Provided,* That the entire lot averages within the percentage specified.

(2) **U.S. No. 1 Bronze.** At least 10 percent of the fruit shall have more than one-half of the surface, in the aggregate, affected by discoloration, and no part of any tolerance shall be allowed to reduce this percentage: *Provided,* That the entire lot averages within the percentage specified. No tolerance is provided for fruit showing no discoloration.

(3) **U.S. No. 2 Russet.** At least 10 percent of the fruit shall have more than two-thirds of the surface, in the aggregate, affected by discoloration, and no part of any tolerance shall be allowed to reduce this percentage: *Provided,* That the entire lot averages within the percentage specified.

**Application of Tolerances**
§51.629 Application of tolerances.

Individual samples are subject to the following limitations, unless otherwise specified in §51.628. Individual samples shall have not more than one and one-half times a specified tolerance of 10 percent or more, and not more than double a specified tolerance of less than 10 percent: *Provided,* That at least one decayed fruit may be permitted in any sample: *And provided further,* That the averages for the entire lot are within the tolerances specified for the grade.

**Standard Pack**
§51.630 Standard pack.

(a) Fruits shall be fairly uniform in size, unless specified as uniform in size. When packed in approved containers, fruit shall be arranged according to approved and recognized methods.

(b) “Fairly uniform in size” means that not more than 10 percent of fruit in any lot, and not more than double that amount in any sample are outside the ranges of diameters given in Table 1 to this section:
Table 1 to §51.630 paragraph (b) – 7/10 Bushel Carton

<table>
<thead>
<tr>
<th>Pack size/number of grapefruit</th>
<th>Diameter in inches</th>
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<tr>
<td></td>
<td>Minimum</td>
<td>Maximum</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>4-15/16</td>
<td>5-9/16</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>4-5/16</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>4-2/16</td>
<td>4-12/16</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>3-15/16</td>
<td>4-8/16</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>3-13/16</td>
<td>4-5/16</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>3-10/16</td>
<td>4-2/16</td>
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</tr>
<tr>
<td>48</td>
<td>3-9/16</td>
<td>3-14/16</td>
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<td>56</td>
<td>3-5/16</td>
<td>3-10/16</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>3</td>
<td>3-8/16</td>
<td></td>
</tr>
</tbody>
</table>

(c) “Uniform in size” means that not more that 10 percent of fruit in any lot, and not more than double that amount in any sample, may vary more than the following amounts:

1. 32 size and smaller – not more than six-sixteenths inch in diameter; and
2. 27 size and larger – not more than nine-sixteenths inch in diameter.

(d) In order to allow for variations, other than sizing, incident to proper packing, not more than 5 percent of the packages in any lot may fail to meet the requirements of standard pack.

Definitions

§51.631 Mature.

“Mature” shall have the same meaning currently assigned that term in the laws and regulations of the State in which the grapefruit is grown; or as the definition of such term may hereafter be amended.

§51.632 Similar varietal characteristics.

“Similar varietal characteristics” means that the fruits in any container are similar in color and shape.

§51.633 Well colored.

“Well colored” means that the fruit is yellow in color with practically no trace of green color.
§51.634 Firm.

“Firm” means that the fruit is not soft, or noticeably wilted or flabby, and the skin is not spongy or puffy.

§51.635 Well formed.

“Well formed” means that the fruit has the shape characteristic of the variety.

§51.636 Smooth texture.

“Smooth texture” means that the skin is thin and smooth for the variety and size of the fruit.

§51.637 Injury.

“Injury” means any specific defect described in Table 1 to §51.652; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which slightly detracts from the appearance, or the edible or marketing quality of the fruit.

§51.638 Discoloration.

“Discoloration” means russetting of light shade of golden brown caused by rust mite or other means. Lighter shades of discoloration caused by smooth or fairly smooth, superficial scars or other means may be allowed on a greater area, or darker shades may be allowed on a lesser area, provided no discoloration caused by speck type melanose or other means may detract from the appearance of the fruit to a greater extent than the shade and amount of discoloration allowed in the grade.

§51.639 Fairly well colored.

“Fairly well colored” means that except for a 1-inch circle in the aggregate of green color, the yellow color predominates over the green color on that part of the fruit which is not discolored.

§51.640 Fairly well formed

“Fairly well formed” means that the fruit may not have the shape characteristic of the variety but is not elongated or pointed or otherwise deformed.

§51.641 Fairly smooth texture.

“Fairly smooth texture” means that the skin is not materially rough or coarse and that the skin is not thick for the variety.
§51.642 Damage.

“Damage” means any specific defect described in Table 1 to §51.652; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which materially detracts from the appearance, or the edible or marketing quality of the fruit.

§51.643 Fairly firm.

“Fairly firm” means that the fruit may be slightly soft, but not bruised, and the skin is not spongy or puffy.

§51.644 Slightly misshapen.

“Slightly misshapen” means that the fruit is not of the shape characteristic of the variety but is not appreciably elongated or pointed or otherwise deformed.

§51.645 Slightly rough texture.

“Slightly rough texture” means that the skin is not smooth or fairly smooth but is not excessively rough or excessively thick, or materially ridged, grooved or wrinkled.

§51.646 Serious damage.

“Serious damage” means any specific defect described in Table 1 to §51.652; or an equally objectionable variation of any one of these defects, any other defect, or any combination of defects, which seriously detracts from the appearance, or the edible or marketing quality of the fruit.

§51.647 Slightly colored.

“Slightly colored” means that, except for a 2-inch circle in the aggregate of green color, the portion of the fruit surface which is not discolored shows some yellow color.

§51.648 Misshapen.

“Misshapen” means that the fruit is decidedly elongated, pointed or flat sided.

§51.649 Slightly spongy.

“Slightly spongy” means that the fruit is puffy or slightly wilted but not flabby.

§51.650 Very serious damage.

“Very serious damage” means any specific defect described in Table 1 to §51.652; or an equally objectionable variation of any one of these defects, any other defect, or any
A combination of defects, which very seriously detracts from the appearance, or the edible or marketing quality of the fruit.

§51.651 Diameter.

“Diameter” means the greatest dimension measured at right angles to a line from stem to blossom end.

§51.652 Classification of defects.

Table 1 to §51.652

All references to area or aggregate area, or length in this standard are based on a grapefruit 4-1/8 inches in diameter, allowing proportionately greater areas on larger fruit and lesser areas on smaller fruit.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Injury</th>
<th>Damage</th>
<th>Serious Damage</th>
<th>Very Serious Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammoniation</td>
<td>Not occurring as light speck type.</td>
<td>Scars are cracked or dark and aggregating more than a circle 3/4 inch in diameter.</td>
<td>Aggregating more than 25 percent of the surface.</td>
<td></td>
</tr>
<tr>
<td>Buckskin</td>
<td>Aggregating more than a circle 1-1/4 inches in diameter.</td>
<td>Aggregating more than 25 percent of the surface.</td>
<td>Aggregating more than 50 percent of the surface.</td>
<td></td>
</tr>
<tr>
<td>Caked melanose</td>
<td></td>
<td>Aggregating more than a circle 1 inch in diameter.</td>
<td>Aggregating more than 25 percent of the surface.</td>
<td></td>
</tr>
<tr>
<td>Dryness or mushy condition</td>
<td>Affecting all segments more than 1/4 inch at stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit.</td>
<td>Affecting all segments more than 1/2 inch at stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit.</td>
<td>Affecting all segments more than 3/4 inch at stem end, or the equivalent of this amount, by volume, when occurring in other portions of the fruit.</td>
<td></td>
</tr>
<tr>
<td>Factor</td>
<td>Injury</td>
<td>Damage</td>
<td>Serious Damage</td>
<td>Very Serious Damage</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Green spots or oil spots</td>
<td>More than slightly affecting appearance.</td>
<td>Aggregating more than a circle 1 inch in diameter.</td>
<td>Aggregating more than 1-1/2 inches in diameter.</td>
<td></td>
</tr>
<tr>
<td>Hail</td>
<td>Not well healed, or aggregating more than a circle 3/8 inch in diameter.</td>
<td>Not well healed, or aggregating more than a circle 1/2 inch in diameter.</td>
<td>Not well healed, or aggregating more than a circle 5/8 inch in diameter.</td>
<td>Not well healed, or aggregating more than a circle 1 inch in diameter.</td>
</tr>
<tr>
<td>Scab</td>
<td></td>
<td>Materially detracts from the shape or texture, or aggregating more than a circle 3/4 inch in diameter.</td>
<td>Seriously detracts from the shape or texture, or aggregating more than a circle 1 inch in diameter.</td>
<td>Aggregating more than 25 percent of the surface.</td>
</tr>
<tr>
<td>Scale</td>
<td>More than a few adjacent to the “button” at the stem end, or more than 6 scattered on other portions of the fruit.</td>
<td>Blotch aggregating more than a circle 3/4 inch in diameter, or occurring as a ring more than a circle 1-1/4 inches in diameter.</td>
<td>Blotch aggregating more than a circle 1 inch in diameter, or occurring as a ring more than a circle 1-1/2 inches in diameter.</td>
<td>Aggregating more than 25 percent of the surface.</td>
</tr>
<tr>
<td>Factor</td>
<td>Injury</td>
<td>Damage</td>
<td>Serious Damage</td>
<td>Very Serious Damage</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Scars</td>
<td>Depressed, not smooth, or detracts from appearance more than the amount of discoloration permitted in the grade.</td>
<td>Very deep or very rough aggregating more than a circle 1/2 inch in diameter; deep or rough aggregating more than 1 inch in diameter; slightly rough or of slight depth aggregating more than 10 percent of surface.</td>
<td>Very deep or very rough aggregating more than a circle 1 inch in diameter; deep or rough aggregating more than 5 percent of the fruit surface; slight depth or slightly rough aggregating more than 15 percent of surface.</td>
<td>Very deep or very rough or unsightly that appearance is very seriously affected.</td>
</tr>
<tr>
<td>Skin breakdown</td>
<td>Aggregating more than a circle 3/8 inch in diameter.</td>
<td>Aggregating more than a circle 5/8 inch in diameter.</td>
<td>Aggregating more than a circle 1-1/4 inches in diameter.</td>
<td>Aggregating more than 25 percent of the surface.</td>
</tr>
<tr>
<td>Sprayburn</td>
<td></td>
<td>Hard or aggregating more than a circle 1-1/4 inches in diameter.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sprouting</td>
<td>More than 6 seeds are sprouted, including not more than 1 sprout extending to the rind, remainder average not over 1/4 inch in length.</td>
<td>More than 6 seeds are sprouted, including not more than 2 sprouts extending to the rind, remainder average not over 1/2 inch in length.</td>
<td>More than 6 seeds are sprouted, including not more than 3 sprouts extending to the rind, remainder average not over 3/4 inch in length.</td>
<td></td>
</tr>
<tr>
<td>Factor</td>
<td>Injury</td>
<td>Damage</td>
<td>Serious Damage</td>
<td>Very Serious Damage</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sunburn</td>
<td>Skin is flattened, dry, darkened, or hard, aggregating more than 25 percent of surface.</td>
<td>Skin is hard, fruit is decidedly one-sided, aggregating more than one-third of surface.</td>
<td>Aggregating more than 50 percent of fruit surface.</td>
<td></td>
</tr>
<tr>
<td>Thorn scratches</td>
<td>Not well healed, or more unsightly than discoloration permitted in the grade.</td>
<td>Not well healed, hard concentrated thorn injury aggregating more than a circle 3/4 inch in diameter, or slight scratches aggregating more than a circle 1 inch in diameter.</td>
<td>Not well healed, hard concentrated thorn injury aggregating more than a circle 7/8 inch in diameter, or slight scratches aggregating more than a circle 1-1/4 inches in diameter.</td>
<td>Aggregating more than 25 percent of the surface.</td>
</tr>
</tbody>
</table>
## Metric Conversion Table

§51.653 Metric conversion table.

<table>
<thead>
<tr>
<th>Inches (in)</th>
<th>Millimeters (mm)</th>
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<tr>
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<td>6.4</td>
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<tr>
<td>3/8</td>
<td>9.5</td>
</tr>
<tr>
<td>1/2</td>
<td>12.7</td>
</tr>
<tr>
<td>9/16</td>
<td>14.3</td>
</tr>
<tr>
<td>5/8</td>
<td>15.9</td>
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<tr>
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<td>19.1</td>
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<tr>
<td>7/8</td>
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<tr>
<td>1</td>
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</tr>
<tr>
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<tr>
<td>1-1/2</td>
<td>38.1</td>
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<tr>
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<td>76.2</td>
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<td>79.4</td>
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<td>5</td>
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