


**The Timken Company**

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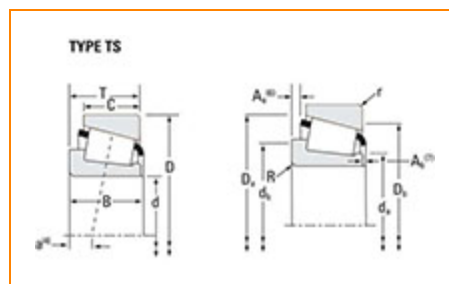
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## Part Number LM451349 - LM451310, Tapered Roller Bearings - TS (Tapered Single) Imperial

This is the most basic and most widely used type of tapered roller bearing. It consists of two main separable parts: the cone (inner ring) assembly and the cup (outer ring). It is typically mounted in opposing pairs on a shaft.



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### Specifications

|                         |               |
|-------------------------|---------------|
| <b>Series</b>           | LM451300      |
| <b>Cone Part Number</b> | LM451349      |
| <b>Cup Part Number</b>  | LM451310      |
| <b>Design Unit</b>      | Inch          |
| <b>Cage Material</b>    | Stamped Steel |

### Dimensions

**d - Bore** 10.5 in  
266.7 mm



**- Cup Outer Diameter**

14 in  
355.6 mm

|                          |                        |
|--------------------------|------------------------|
| <b>B - Cone Width</b>    | 2.2500 in<br>57.150 mm |
| <b>C - Cup Width</b>     | 1.7500 in<br>44.450 mm |
| <b>T - Bearing Width</b> | 2.2500 in<br>57.150 mm |

## Abutment and Fillet Dimensions

|  |                       |
|--|-----------------------|
| <b>R - Cone Backface "To Clear" Radius<sup>1</sup></b> | 0.14 in<br>3.600 mm   |
| <b>r - Cup Backface "To Clear" Radius<sup>2</sup></b>  | 0.13 in<br>3.3 mm     |
| <b>da - Cone Frontface Backing Diameter</b>            | 11.06 in<br>281 mm    |
| <b>db - Cone Backface Backing Diameter</b>             | 11.22 in<br>285 mm    |
| <b>Da - Cup Frontface Backing Diameter</b>             | 13.52 in<br>343.41 mm |
| <b>Db - Cup Backface Backing Diameter</b>              | 13.19 in<br>335.03 mm |
| <b>Ab - Cage-Cone Frontface Clearance</b>              | 0.18 in<br>4.6 mm     |
| <b>Aa - Cage-Cone Backface Clearance</b>               | 0.19 in<br>4.8 mm     |
| <b>a - Effective Center Location<sup>3</sup></b>       | 0.2 in<br>5.1 mm      |

## Basic Load Ratings

|  |           |
|--|-----------|
| <b>C90 - Dynamic Radial Rating (90</b> | 43300 lbf |
|--|-----------|

|   |                         |
|---|-------------------------|
| <b>million revolutions)<sup>4</sup></b>   | 193000 N                |
| <b>C1 - Dynamic Radial Rating (1 million revolutions)<sup>5</sup></b>               | 167000 lbf<br>743000 N  |
| <b>C0 - Static Radial Rating</b>  | 339000 lbf<br>1510000 N |
| <b>C<sub>a90</sub> - Dynamic Thrust Rating (90 million revolutions)<sup>6</sup></b> | 26700 lbf<br>119000 N   |

## Factors

|   |        |
|---|--------|
| <b>K - Factor<sup>7</sup></b>                       | 1.62   |
| <b>e - ISO Factor<sup>8</sup></b>                   | 0.36   |
| <b>Y - ISO Factor<sup>9</sup></b>                   | 1.67   |
| <b>G1 - Heat Generation Factor (Roller-Raceway)</b> | 1554.1 |
| <b>G2 - Heat Generation Factor (Rib-Roller End)</b> | 212.2  |
| <b>Cg - Geometry Factor<sup>10</sup></b>            | 0.154  |

<sup>1</sup> These maximum fillet radii will be cleared by the bearing corners.

<sup>2</sup> These maximum fillet radii will be cleared by the bearing corners.

<sup>3</sup> Negative value indicates effective center inside cone backface.

<sup>4</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values.

<sup>5</sup> Based on  $1 \times 10^6$  revolutions  $L_{10}$  life, for the ISO life calculation method.

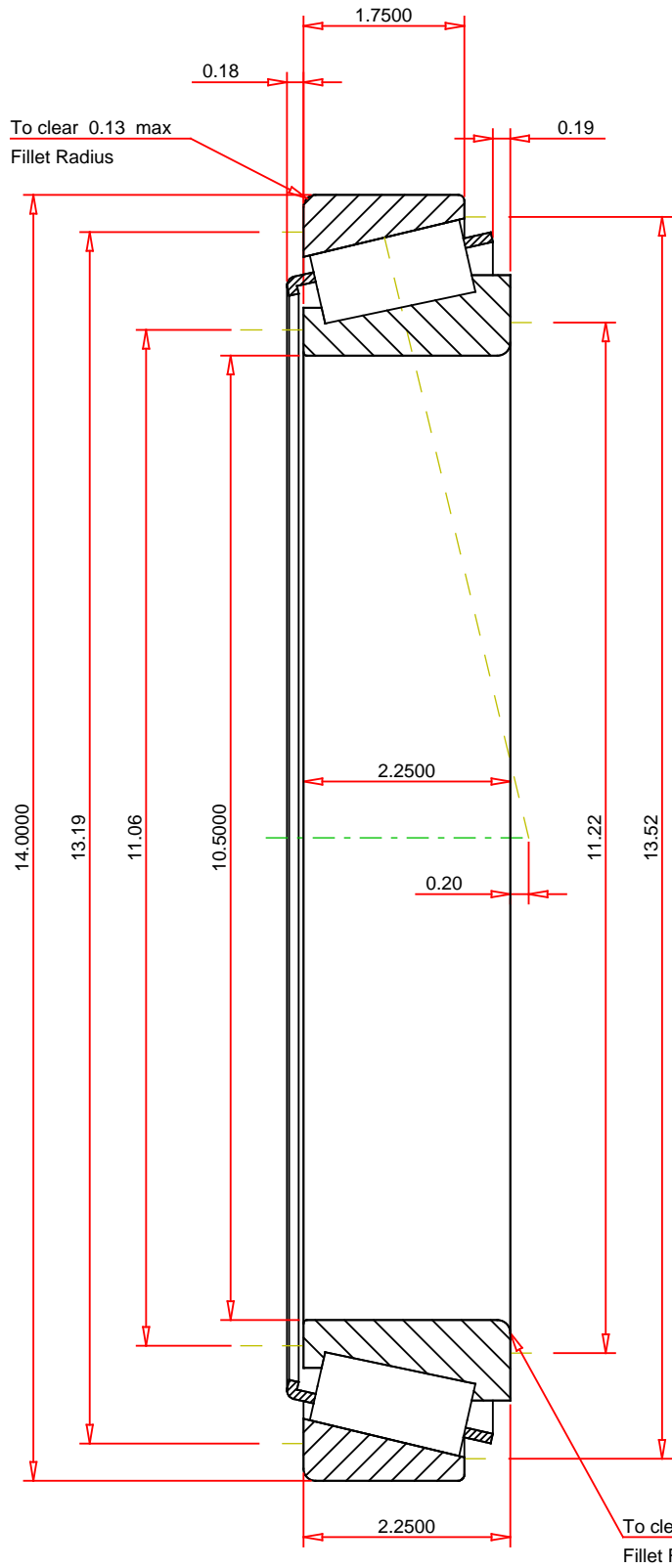
<sup>6</sup> Based on  $90 \times 10^6$  revolutions  $L_{10}$  life, for The Timken Company life calculation method.  $C_{90}$  and  $C_{a90}$  are radial and thrust values for a single-row,  $C_{90(2)}$  is the two-row radial value.

<sup>7</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>8</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>9</sup> These factors apply for both inch and metric calculations. Consult your Timken representative for instruction on use.

<sup>10</sup> Geometry constant for Lubrication Life Adjustment Factor a3l.



## IMPERIAL UNITS

|                           |          |
|---------------------------|----------|
| ISO Factor - e            | 0.36     |
| ISO Factor - Y            | 1.67     |
| Bearing Weight            | 32.9 lb  |
| Number of Rollers Per Row | 39       |
| Effective Center Location | 0.2 inch |

**TIMKEN®**

**THE TIMKEN COMPANY**  
NORTH CANTON, OHIO USA

**LM451349 - LM451310**  
Tapered Roller Bearings - TS (Tapered Single)  
Imperial

|                              |            |
|------------------------------|------------|
| K Factor                     | 1.62       |
| Dynamic Radial Rating - C90  | 43300 lbf  |
| Dynamic Thrust Rating - Ca90 | 26700 lbf  |
| Static Radial Rating - C0    | 339000 lbf |
| Dynamic Radial Rating - C1   | 167000 lbf |

Every reasonable effort has been made to ensure the accuracy of the information contained in this writing, but no liability is accepted for errors, omissions or for any other reason.

**FOR DISCUSSION ONLY**