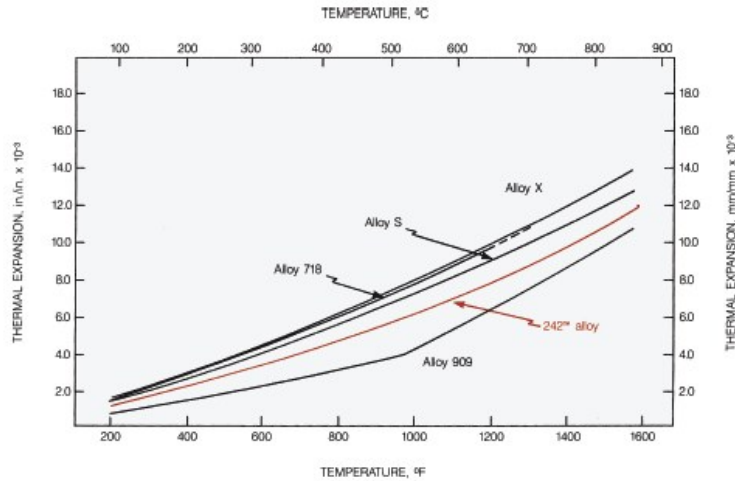


# HAYNES<sup>®</sup> 242<sup>®</sup> alloy

## Thermal Expansion

HAYNES<sup>®</sup> 242<sup>®</sup> alloy exhibits significantly lower thermal expansion characteristics than most nickel-base high-temperature alloys in the range of temperature from room temperature to 1600°F (871°C). Although its expansion is greater than that for alloy 909 below 1000°F (538°C), at higher temperatures, the difference narrows considerably.

### Total Thermal Expansion, Room to Elevated Temperature



### Mean Coefficient of Thermal Expansion

The following compares the mean coefficient of expansion for several alloys:

Alloy	Mean Coefficient of Expansion from RT to Temperature, in./in./°F (mm/mm-°C) x10 <sup>-6</sup>									
	1000°F	538°C	1100°F	593°C	1200°F	649°C	1300°F	704°C	1400°F	760°C
	in./in./°F x10 <sup>-6</sup>	mm/mm-°C x10 <sup>-6</sup>	in./in./°F x10 <sup>-6</sup>	mm/mm-°C x10 <sup>-6</sup>	in./in./°F x10 <sup>-6</sup>	mm/mm-°C x10 <sup>-6</sup>	in./in./°F x10 <sup>-6</sup>	mm/mm-°C x10 <sup>-6</sup>	in./in./°F x10 <sup>-6</sup>	mm/mm-°C x10 <sup>-6</sup>
<b>909</b>	5	9	5.4	9.7	5.8	10.4	6.2	11.2	6.6	11.9
<b>242<sup>®</sup></b>	<b>6.8</b>	<b>12.2</b>	<b>6.8</b>	<b>12.3</b>	<b>7</b>	<b>12.6</b>	<b>7.2</b>	<b>13</b>	<b>7.7</b>	<b>13.9</b>
<b>B</b>	6.7	12	6.7	12	6.7	12	6.9	12.4	7.1	12.8
<b>N</b>	7.3	13.1	7.4	13.3	7.5	13.5	7.6	13.7	7.8	14
<b>S</b>	7.4	13.2	7.5	13.5	7.6	13.7	7.8	14	8	14.4
<b>X</b>	8.4	15.1	8.5	15.3	8.6	15.5	8.6	15.7	8.8	15.8