King Plastic Corporation
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Thermal Expansion/Contraction Worksheet

This worksheet is designed to aid in determining what expansion and contraction your King Plastic HDPE product part will experience.

EXPANSION

In Box A = write the approximate temp. at the time of fabrication.

In Box B = write the highest temp. your part will experience in its place of service.

Subtract Box B from Box A to get the temp. difference for expansion due to heat. (i.e. 70ºF – 100ºF = -30ºF)

Box A [ºF] — Box B [ºF] = _____ = D (Expansion)

CONTRACTION

In Box A = write the approximate temp. at the time of fabrication.

In Box B = write the lowest temp. your part will experience in its place of service.

Subtract Box B from Box A to get the temp. difference for shrinkage due to cold. i.e. (70ºF – 30ºF = 40ºF)

Box A [ºF] — Box B [ºF] = _____ = D (Contraction)

Let's call the temp. difference "D"

To calculate the amount your part will expand and contract, multiply the following:

D	x	**L or W**	x	**.00006**	=	**Expansion** or **Contraction**
(temp. difference)		(Length or Width in inches of part)		(coefficient of King Product Brand)		

Expansion Example: If a sheet of HDPE was being cut in a shop at 70ºF and the highest temp. the part will experience is 100ºF, the temp. difference (D) is 30. The part is 96 inches, so expansion is:

30ºF	x	96"	x	.00006	=	.173 or approximately 3/16"
(temp. difference)		(length of part)		(coefficient)		(expansion)