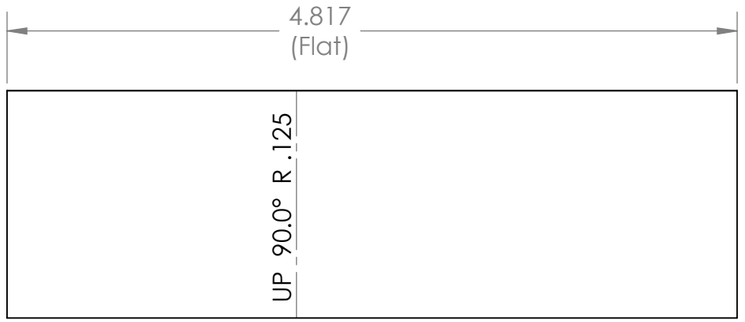
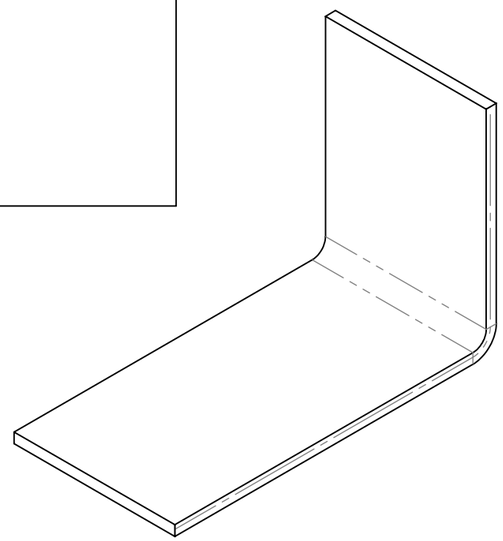
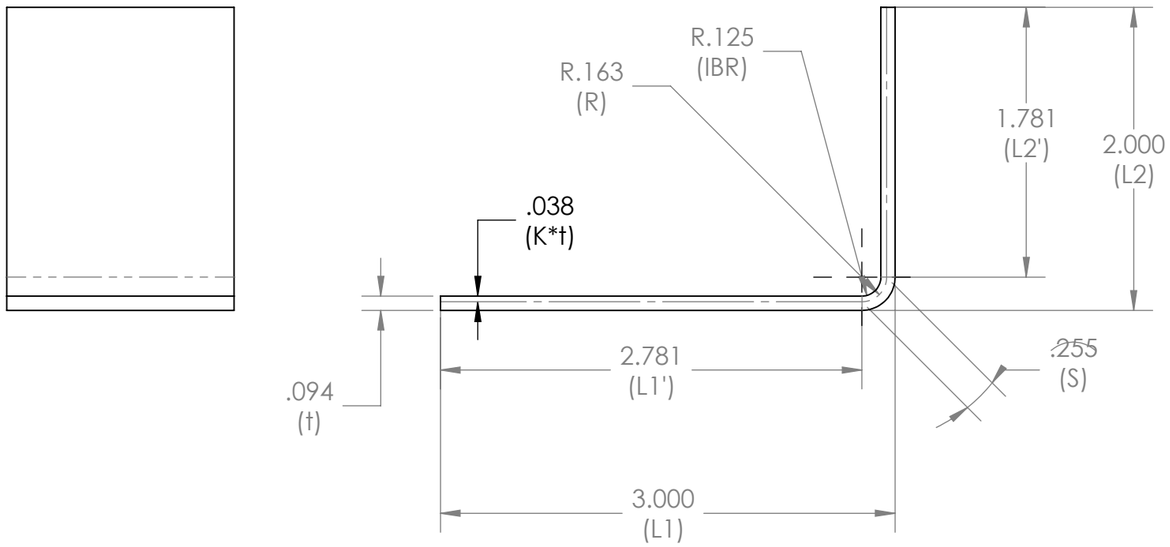
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED







K-Factor is the ratio of the *distance from the inside surface to the neutral axis* to the *material thickness*. In bending the material at the bend is compressed on the inside and stretched on the outside. It is neither stretched nor compressed at the neutral axis.

To determine K-factors for combinations of material thicknesses (t) and inside bend radius (IBR) simply measure the thickness (t) and flat length (Flat) of a suitable piece of material prior to bending and then the two lengths L1 and L2 after bending the part 90°. Calculate K-factor as below. Populate a table for the combinations of thicknesses and bend radii and publish it to the sheet metal designers and fabricators.

Equation Development (Note: L1', L2' and S are along neutral axis)
Flat = L1' +S +L2'
L1' = L1 - (IBR + t)
L2' = L2 - (IBR + t)
S = π/2 * (IBR + **K***t)

Solving for K in terms of measured values Flat, t, L1, L2 and known IBR:
K = 2/π/t * (Flat - L1 - L2 + 2*(IBR + t)) - IBR/t

Example shown:
K = 2/π/.094 * (4.817 - 3.0 - 2.0 +2*(.125 + .094)) - .125/.094
Therefore K=.40

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES [mm]
TOLERANCES:
X/X : ±0.03125
X.XX : ±0.015
X.XXX : ±0.005
X.XXXX : ±0.0005
ANGULAR : ±0.5°
SURFACE FINISH : 64
BREAK CORNERS TO R.01

MATERIAL
- -

MADE FROM STOCK
- -

FINISH
- -

HEAT TREAT
- -

WEIGHT: - -

PROPRIETARY AND CONFIDENTIAL

Configuration: Default

DRAWN	Updraft	12/3/2010
CHECKED	Updraft	12/3/2010
ENG APPR.	Updraft	12/3/2010
MODELED	Updraft	12/3/2010

TITLE:
K-Factor Development

SIZE	DWG. NO.	REV
B	K-Factor Development	
SCALE: 1:1	DO NOT SCALE DRAWING	SHEET 1 OF 1