

# K FACTOR、 BEND ALLOWANCE AND BEND DEDUCTION

## 01 Introduction

- Press brakes are common industrial tools for bending various materials
- Understanding key factors is crucial for optimal bending results

## 02 K-Factor

- Represents the ratio between neutral axis position and plate thickness
- Determined by material properties, bending method, radius, and angle
- Ranges from 0.30 to 0.50 depending on material
- Crucial for calculating bend allowance and deduction

## 03 Bend Allowance

- Arc length of bending measured along the neutral axis
- Added to flat length to determine required sheet metal length
- Calculation formula:  $BA = \frac{\pi(R + KT)A}{180}$

## 04 Bend Deduction

- Length of material to remove from total length for correct flat pattern
- Difference between bend allowance and twice the outside setback
- Calculation formula:  
 $BD = 2 * OSSD - BA = 2 * (R + T) \tan \frac{A}{2} - \frac{\pi(R + KT)A}{180}$
- Helps determine part dimensions before bending

## 05 Conclusion

- Accurate calculation of K-factor, bend allowance, and bend deduction is essential
- Reduces material waste and achieves precise bending
- Theoretical calculations serve as initial reference; trial and error is necessary

## Recommended Manufacturer

- ADH Machine Tool: Industry leader with 40+ years of experience
- Provides comprehensive bending solutions and high-quality customer service