Base Tangent Measurement

$$W_k = m_n \cdot \cos\alpha_n \cdot \left[\left(k - \frac{z}{2 \cdot |z|} \right) \cdot \pi + z \cdot \text{inv}\,\alpha_t \right] + 2 \cdot x \cdot m_n \cdot \sin\alpha_n$$

$$W_{k+1} - W_k = m_n \cdot \cos\alpha_n \cdot \pi$$

$$\cos\alpha_n = \frac{W_{k+1} - W_k}{m_n \cdot \pi}$$

Through measurement of the base tangent length over different number of teeth, the working pressure angle can be calculated for a given module.