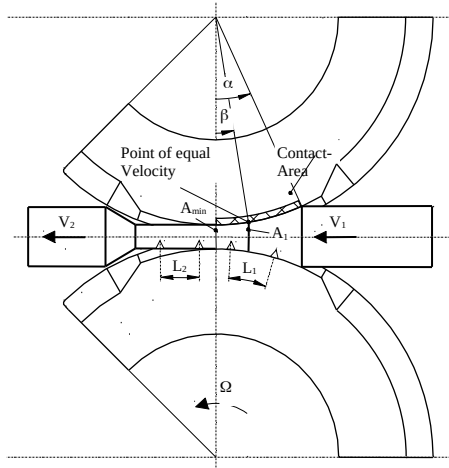


**VeraCAD Technology Chat**

**Title: Relative Motion**  
**Type: Basic technology**  
**Version: VeraCAD 4.0**  
**Language: English**  
**Date: 1.1.2010**

**Explanation of relative motion effect in Reducer Rolling**



$$\dot{m}_1 = \dot{m}_{min} \quad \overset{!}{=} \quad const \text{ (Volume contancy)}$$

$$\dot{m} = A \cdot V \quad \rightarrow \quad A_1 \cdot V_1 = A_{min} \cdot V_{min}$$

$$L = V \cdot t \quad \rightarrow \quad A_1 \cdot L_1 \cdot t = A_{min} \cdot L_2 \cdot t$$

$$L_2 = \frac{A_1}{A_{min}} \cdot L_1$$

from  $A_1 > A_{min}$  follows:

$$L_2 > L_1$$