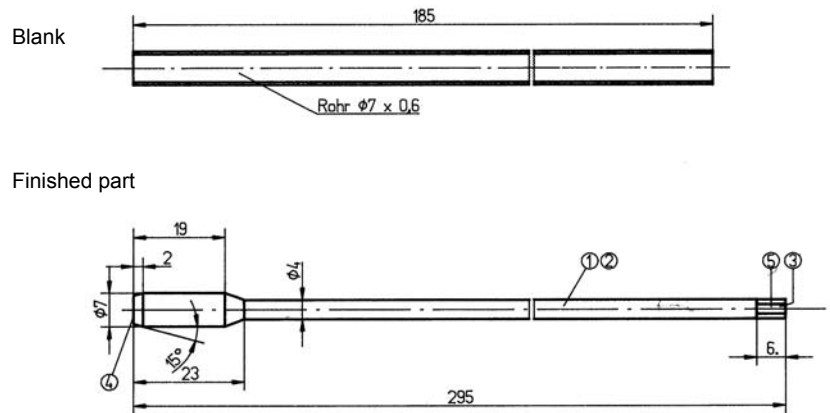


**Components produced by Precision Rotary Swaging:  
Injection Pipe**



91 1746/M

**Workpiece:**

Material: AlMgSi 0.5 F 13

Blank: tube O.D. 7 mm and wall thickness 0.6 mm

**Manufacturing requirement:**

Complete manufacture of part in only one machine pass

**Previous technique:**

none / new design

**Operation sequence:**

1. Pre-reduction from dia. 7 mm to 4 mm with  $\angle 7^\circ$
2. Finishing reduction to dia. 4 mm with  $\angle 14^\circ$
3. Sawing off to length of right workpiece side and chamfering of I.D. .
4. Sawing off to length of left workpiece side and chamfering 2 mm x  $15^\circ$
5. Forming hexagon on right workpiece side

**Advantages:**

- Good dimensional accuracy
- Excellent surface finish
- Minimal chip production/ reduced costs for chip removal
- Favourable grain structure
- Work hardening of material
- Finishing of part in only one machine pass

**Machine description:**

Automatic transfer line consisting of:

- 2 swaging stations
- 2 sawing stations
- 1 forming station

**Production rate:**

Cycle time: 6 pieces/min.)

**Machine:**

Model: HA 16-5 V

Required floor space including sound enclosure: (L x W x H) approx. 4650 x 4150 x 2600 mm

Weight: approx. 4,900 kg

Required power: approx. 12 kW