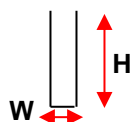


ARPRO is adaptable and can be engineered to perform in most designs. Certain parameters around height versus width and ease of mould / de-mould need to be taken into account.

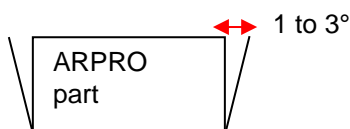
Design aspects

H / W design
(thin parts)



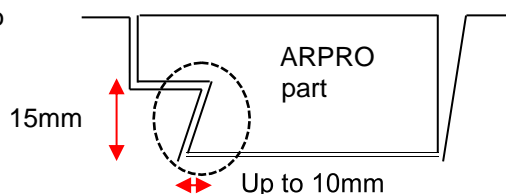
H < approx. 10mm **W**: min 1 particle (approx. 3mm; ARPRO 5635 CG 2 - 3mm)
H < approx. 30mm **W**: min 2 particles (approx. 4 - 5mm; ARPRO 5635 CG 3 - 4mm)
H < approx. 70mm **W**: min 3 particles (approx. 7 - 10mm; ARPRO 5635 CG 5 - 8mm)

Draft angles for demoulding:



All radii can be moulded except at the tooling partition line.

“Negative” angles are possible thanks to the inherent flexibility of ARPRO:



Part dimensions

Moulded part dimensions are a function of the moulding press. The largest part that can be made in one go is 1,800 x 1,000 x 200mm but do not fear as it is easy to join multiple ARPRO parts together. Minimum thickness in the crack direction is approximately 5mm.

Moulding tool characteristics

The moulding tool is usually made of 10 - 12mm thick aluminium. Supporting elements should be installed behind the cavity. The tool needs to be equipped with uniformly dispersed core vents for steam diffusion and with several fill guns placed in suitable locations that ensure best possible filling of the part based on its geometry. For aesthetic reasons it is important to avoid placing fill guns on visible surfaces. The external diameter of the fill gun tips usually ranges from 12 - 24mm. Part ejectors should also be positioned to allow demoulding without part deformation. Our technical support can perform feasibility studies and ensure the perfect setup!

Moulding tool shrinkage

ARPRO tooling requires the shrink ratio to be included in cavity dimensions. The shrink ratio must be applied to each project, depending on the following criteria:

- Selected ARPRO grade.
- Compression ratio defining target moulded density.
- Moulding technique e.g. pre-treated, non pre-treated, crack fill, pressure fill etc.
- Geometry of the moulded part.

For each ARPRO grade, the higher the compression ratio, the lower the tool shrinkage. For grade specific shrinkage, please see individual grade datasheets.

Dimensional tolerances – ISO norm 2768

Tolerances depend on the following parameters: type of moulding press, part geometry, design and layout of the tool, moulding parameters, pre-treatment and post treatment.

| Part size (mm) | 0.5 - 3.0 | 3.0 - 6.0 | 6.0 - 30 | 30 - 120 | 120 - 400 | 400 - 1000 | 1000 - 2000 | 2000 - 4000 |
|----------------|-----------|-----------|----------|----------|-----------|------------|-------------|-------------|
| f: small | ± 0.05 | ± 0.05 | ± 0.1 | ± 0.15 | ± 0.2 | ± 0.3 | ± 0.5 | - |
| m: medium | ± 0.1 | ± 0.1 | ± 0.2 | ± 0.3 | ± 0.5 | ± 0.8 | ± 1.2 | ± 2.0 |
| c: large | ± 0.2 | ± 0.3 | ± 0.5 | ± 0.8 | ± 1.2 | ± 2.0 | ± 3.0 | ± 4.0 |
| v: extra large | - | ± 0.5 | ± 1.0 | ± 1.5 | ± 2.5 | ± 4.0 | ± 6.0 | ± 8.0 |

Density ≥ 60 g/l

Density < 60 g/l