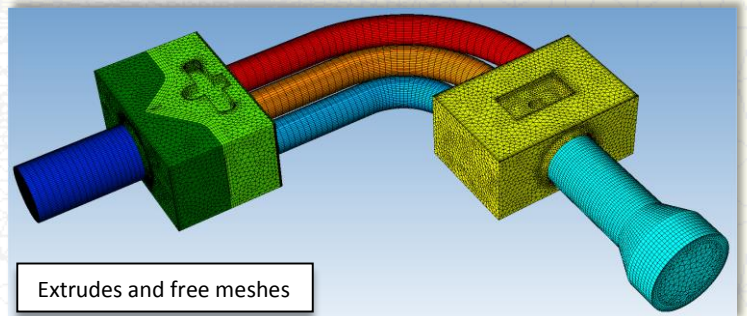


CastNet hybrid meshing

In hybrid meshing CastNet generates tetrahedral cells, combined with prisms in boundary layer regions and hexahedral cells (e.g. in extrude regions). The particular features in this meshing approach are:

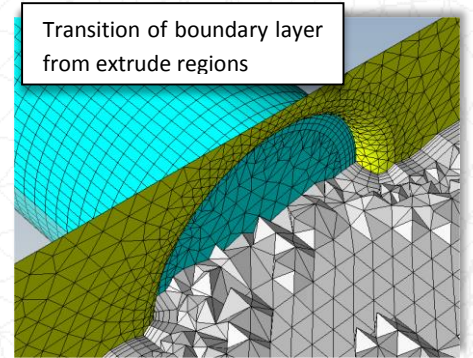
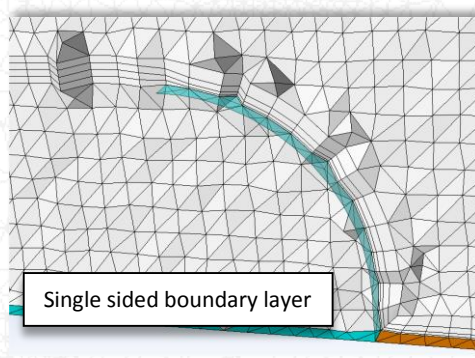
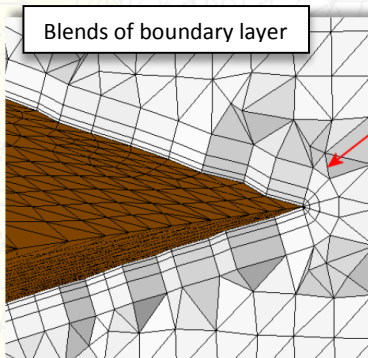
- Fast and high-quality mesh generation using relative element sizes and curvature control parameters
- Efficient mesh setup by combinations of extrudes and free meshes
- Full mesh control by means of local meshing parameters (element sizes, refinement boxes, boundary layer sizes)



Mesh changes are quickly carried out: Changing the boundary layer thickness or setting refinement zones takes just one click.

Additionally CastNet provides advanced boundary layer features:

- Different types of boundary layer, e.g. first layer thickness, number of layer relative size, etc.
- Blend options
- Single sided boundary layer for interior meshes (baffle faces, solid zones in CHT analysis)



CastNet meshing features allow easy access to advanced OpenFOAM® functionality. These are in particular: Fan and baffle faces, regions (porous, MRF, AMI, CHT) and cyclic patches. Furthermore CastNet provides a special mesh improver for OpenFOAM® quality criteria. This results in an improved non-orthogonality of hybrid meshes.

