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High Rises ter Installation:

The full Title of EN10312 is "Welded stainless steel tubes for the conveyance of aqueous liquids including water for human consumption"; welded water tubing. The EN10312 has specified sizes and dimension.

For High Rise Building EN10312 does not fully Coper Pressure Range, and P-Engineering can design the Water Piping System according to EN13480 for e.g., PN25 and PN40 as well, enabling supply water to the of an approximately 330m building.

What are the advantages:

- Simpler System design with e.g., 3 set of supply: PN16, PN25 and PN40 compared to a sequential Supply System.
- Easier Commissioning and Operation.
- Enables Prefabrication of pipe spools

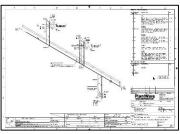
Prefabricated Water Piping reduces the onsite need for QC for e.g., tracking tube materials and Press-connections quality with for example X-Ray.

P-Engineering delivers Pipe Isometric, Support Drawings, BoQ for both Welding and Tube/Fittings.









Examples from prefabrication of Water Piping

<u>Legionella</u>

Welded Water Piping also gives the opportunity to apply pharma-inspired "dead leag" design reducing the possibilities for bacterial growth and reducing risk of legionella bacteria.

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ter Installation:

System Guarantee (Denmark)

Especially for Denmark there is a request from Client side for a "System Guarantee" for Water Installations. This is based on the Main Manufacturer like

- Broen
- Mapress
- Viega

themselves has Specified the Operation Limits for their own Products. These companies therefore issue a Guarantee based on the contractor follows these companies training course, uses specific tools etc. The Guarantee normally also includes site inspections.

When the piping installation are welded there is no risk of Joint disintegration and System Guarantee in above Context is not relevant.





Examples from prefabrication of Water Piping:

Above: Welded Manifold Below: Water Booster Unit from Grundfos (which has been supplied with welded piping before EN10312 was issued first time) with welded internal piping.

P-Engineering uses e.g.

- AVEVA PDMS Software for 3D design
- DXT EN13480 Software for Detail Calculations
- <u>PIPE-FLO®</u> Software for Flow Calculation, Pump Sizing etc.

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