

## HOT FORMED FITTINGS



- This brochure is intended to give you a general idea of the RMA product subrange "pipe fittings and welded structures".
- Owing to the wide range of possible types which can be manufactured by RMA, necessitated by different applications and requirements, we have restricted this brochure to pictorial representations of certain characteristic types.
- Tabular representations are not possible with this range of products. Even with the "classic" tees, we have intentionally not included tabular representations since we manufacture the products to meet specific requirements in each case.

### Materials

- Depending on applications, design calculations and specifications, we process materials according to German and foreign standards e.g.
  - \* General structure steel
  - \* Lin pipe steel e.g. DIN 17172, API, ASTM
  - \* Fine grain steel
  - \* Boilersteel
  - \* Heat resistant and high temperature resisting steel
  - \* Low temperature steel
  - \* Low Alloy steel
  - \* Modified steel with restricted compositions, including steel for sour service
  - \* Nickel/cromium-steel
  - \* and many other materials on request

### Welding

- All conventional, required welding methods, up to 10% utilization of the material design stress.
- Welding, e.g. in acc. with DIN, ASME-Boiler and Pressure Vessel Code, Section IX.
- Welding permits from the TÜV (German technical inspection authority), Lloyd's Register, Germanischer Lloyd, Bureau Veritas, Det Norske Veritas and others. Continual welding operator qualification tests.
- Procedure qualification tests have been performed for virtually all materials to be processed, welding methods, welding shapes and dimensions. Supplementary procedure qualification tests can be performed at all times.

### Heat treatment

- High-efficiency annealing furnace with temperature control and chart recorder for stress-relieving and normalizing.

### Surface treatment

- Shortblasting in our own high-capacity sandblasting plant.
- Processing rooms (tempered), processing facilities and test facilities permit application of a large number of corrosion protection systems.

### Quality assurance

- Materials and workpieces can be tested both destructively and non-destructively. A wide range of appropriate testing equipment and our materials testing laboratory permit 100% production monitoring
- General quality assurance is based upon our Quality Assurance Manual (QAM)
- Supplementary test steps and methods are stipulated specifically and are dependent upon product and quality requirements and, if necessary are documented.
- Acceptance tests are conducted either by our independent quality assurance department/or by acceptance testing authorities appointed by the customer or by the customer himself.

### Drawings/Calculations

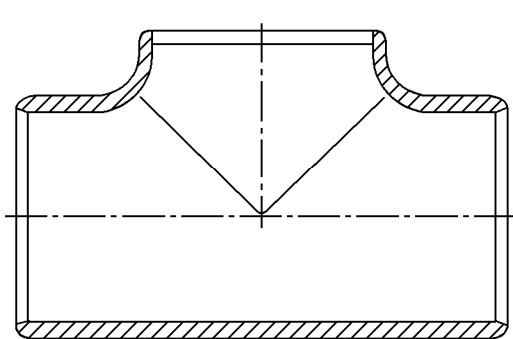
- On the basis of customer drawings and regulations or on the basis of our own designs and stipulations allowing for valid standards.
- Strength calculations, for instance, in accordance with AD-data sheets, TRD, ANSI B 31.3, 31.8, ASME Code Section VIII and others.
- We are also able to carry out static calculations on pipeline systems on the basis of rules of the art recognized both, national and international if required.

### Production capacity

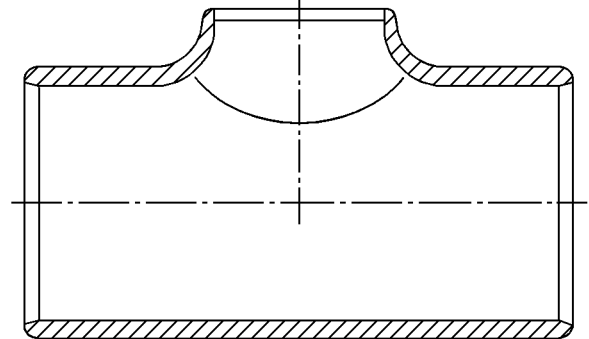
- Thanks to our efficient facilities, our production capacity is virtually unlimited, e.g., generally including the sizes occurring in practice. For example, we are able to supply individual products up to a total weight of 50 t per item. This also permits factory pre-production of pipeline components with dimensions subject to transportability.

### Methods of dispatch

- Truck, rail and ship, direct ex-factory in each case.
- Good connections to sea ports.

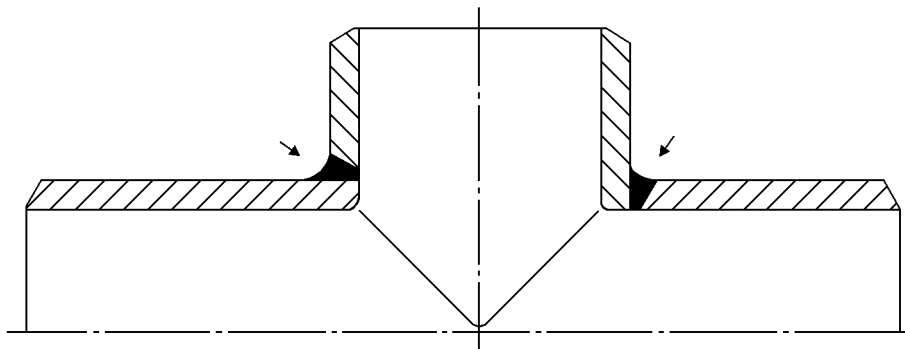


*Equal Tee*



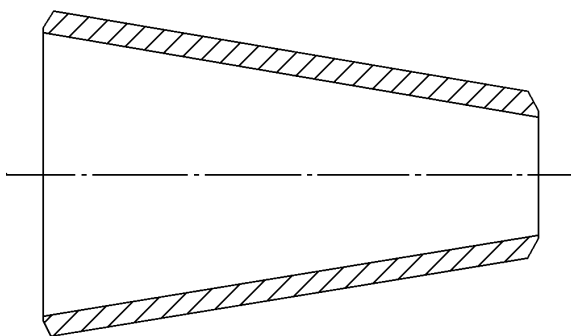
*Reduced Tee*

**Tees with hot extruded branches**, until now up to DN 70" can be supplies in all pressure ratings. Matching pipe connections and shape of weld seam preparation acc. to the individual requirements.

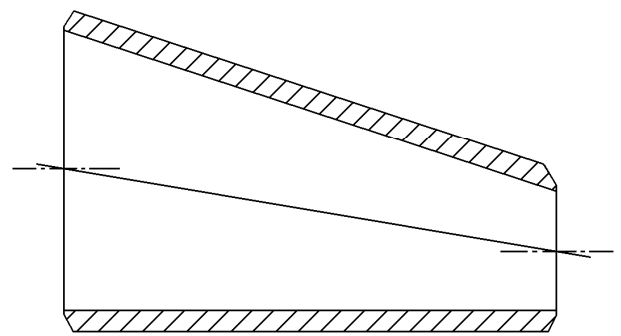


*Equal Tee or reduced branches*

**Tees with welded branches**, can be manufactures in all dimensions and kind of connections.



*Concentric*



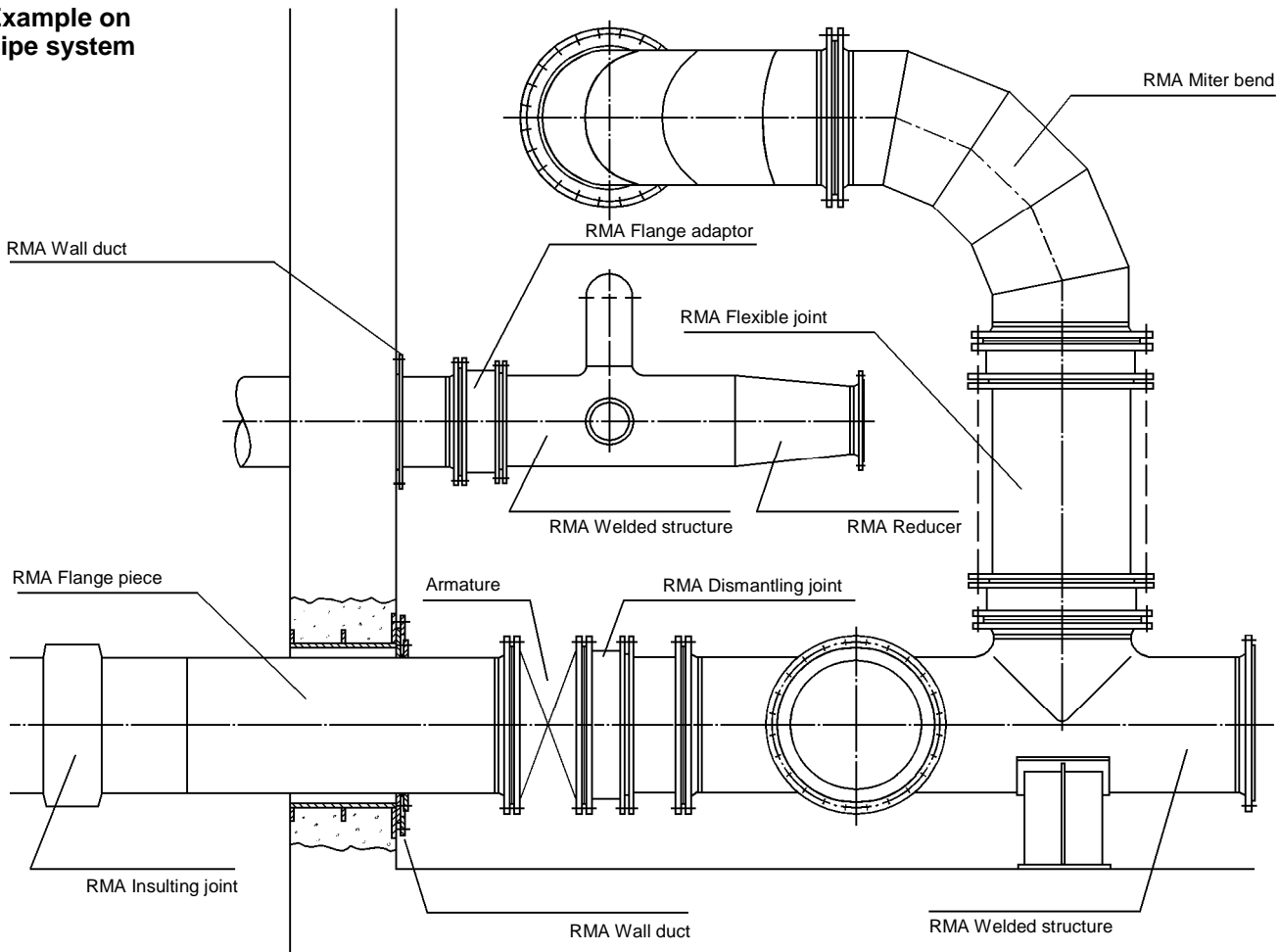
*Eccentric*

**Reducers** - concentric or eccentric, longitudinal welded. Seamless reducers also possible ad an added program. Overall lengths acc. to standard or acc. to specific requirements.



**Tee** - extruded with welded on branch.  
Without welded on branch also possible.

**Example on pipe system**



Technical modifications reserved

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