



Challenge



Engineering Solution



Outcome

Case study: Rotaty adapter for Solar

CONVERSION SOLUTION

5-PCS WELDMENT TO ONE-PIECE INVESTMENT STEEL CASTING

Challenge

Interest for development of a stronger, lighter and more cost-efficient rotary component in alternative to the present 5 pieces welded component.

BEFORE: WELDMENT



Fabrication weight: **5,7 kg/pcs**

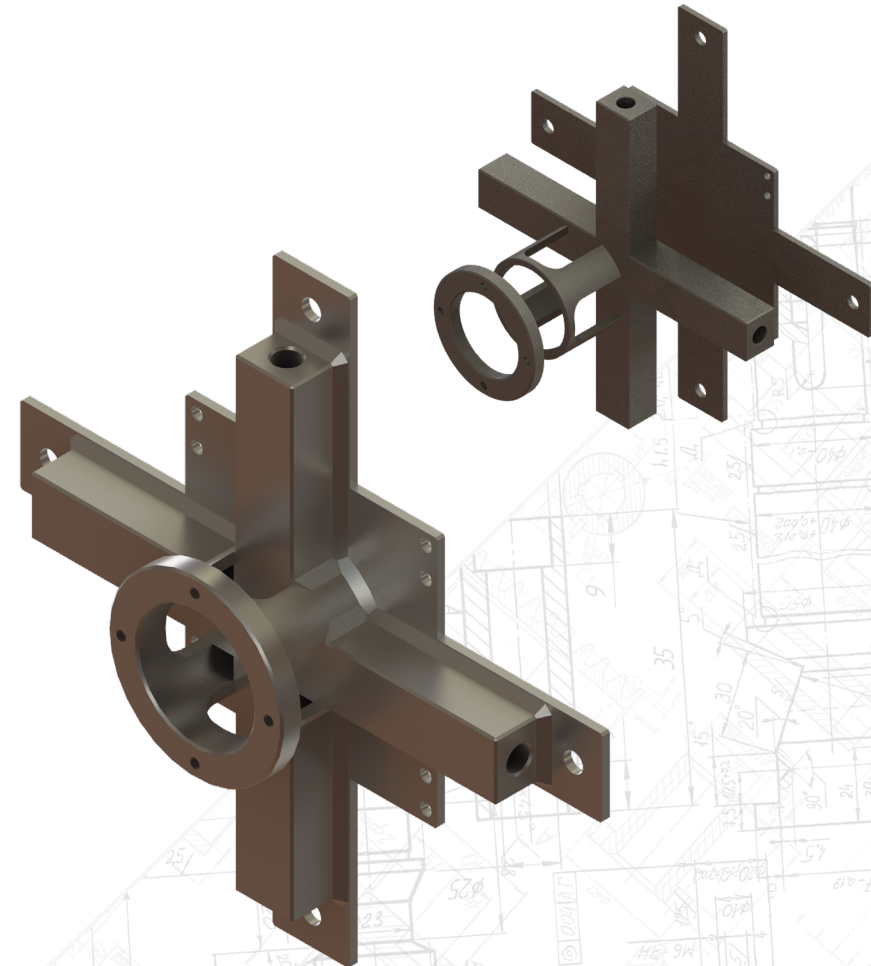
Mechanical Properties for **S 275 J2 + N**

ReH Yield strength (MPa): 275 N/mm²

Rm Tensile strength (MPa): 410 N/mm²

Weldment

Material Alloy Grade: S275 J2+N acc. to EN 10025



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ENGINEERING SOLUTION

HIGH ALLOY STEEL CASTING

AFTER: CASTING



Casting weight: **3,9 kg/pcs**

Mechanical Properties for **G 24Mn6 + QT(2)**

ReH Yield strength (MPa): 500 N/mm²

Rm Tensile strength (MPa): 700 N/mm²

Castings Alloy

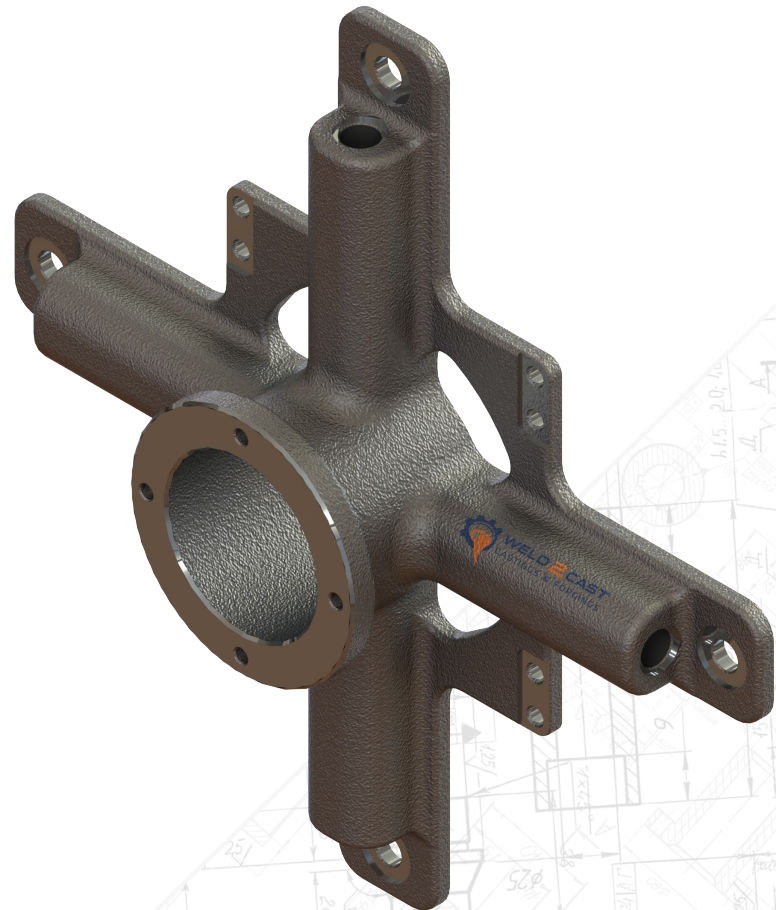
G24Mn6 + QT(2) Acc to Steel Casting standard EN 10293

Casting Method

Investment Casting (Silica Sol Process)

Add Value

Finish machining





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ENGINEERING OUTCOME

RESULT OF THE CONVERSION



- **32%**

Weight Optimization

From 5,7 kg/pcs in Fabrication to 3,9 kg in High Alloy Casted Steel.



- **19%**

Total Cost Reduction

Saving cost by redesign of shape, material & weight.



min. **+ 29%**

Strength Optimization

Improve material strength by changing the Steel Fabrication Alloy S 275J2+N to High Alloy Casted Steel G 26Mn4 +QT (2).



min. **+ 35%**

Product Efficiency

WELD2CAST transformed a 5-pieces part into a one-piece Casting. The redesign simplified the assembly process for our client and reduced internal labour, manufacturing, inventory and overhead cost.

Combine Your Castings & Forgings with Our ADD-VALUE Services

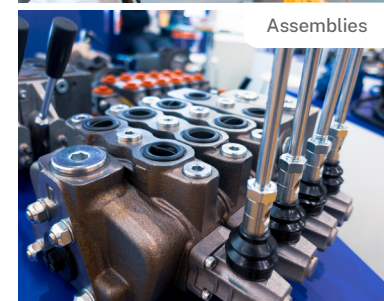


Need assistance...

in determining if your welded part is a good candidate for a conversion to casting?



Surface Finishing



Assemblies



CNC-Machining



Stock Keeping