



Industry



Challenge



Engineering Solution



Outcome

Case study: Arm for seeding machine

CONVERSION SOLUTION

13-PCS WELDMENT TO ONE-PIECE INVESTMENT STEEL CASTING

Challenge

Interest for development of a stronger, lighter and more cost-efficient arm component in alternative to the present 11 pieces welded component.

BEFORE: WELDMENT



Fabrication weight: **17,4 kg/pcs**

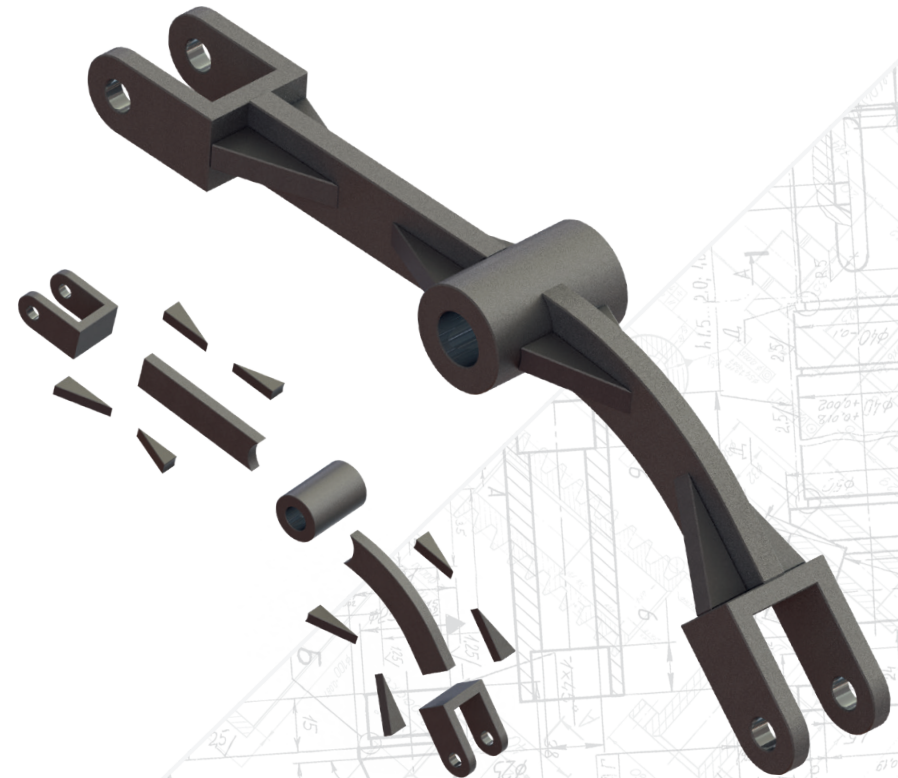
Mechanical Properties for **S 355J2**

ReH Yield strength (MPa): 345 N/mm²

Rm Tensile strength (MPa): 470 N/mm²

Weldment

Material Alloy Grade: S355 J2 acc. to EN 10025





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ENGINEERING SOLUTION

HIGH ALLOY STEEL CASTING

AFTER: CASTING



Casting weight: **15,3 kg/pcs**

Mechanical Properties for **G 30Mn5 + QT(2)**

ReH Yield strength (MPa): 430 N/mm²

Rm Tensile strength (MPa): 600 N/mm²

Castings Alloy

G 30Mn5 + QT(2) Acc to Steel Casting standard EN 10293

Casting Method

Investment Casting (Water Glass Process)

Add Value

Finish machining





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ENGINEERING OUTCOME

RESULT OF THE CONVERSION



- 12%

Weight Optimization

From 17,4 kg/pcs in Fabrication to 15,3 kg in High Alloy Casted Steel.



- 57%

Total Cost Reduction

Saving cost by redesign of shape, material & weight.



min. **+ 33%**

Strength Optimization

Improve material strength by changing the Steel Fabrication Alloy S 355J2+N to High Alloy Casted Steel G 30Mn5 + QT(2).



min. **+ 71%**

Product Efficiency

WELD2CAST transformed a 13-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

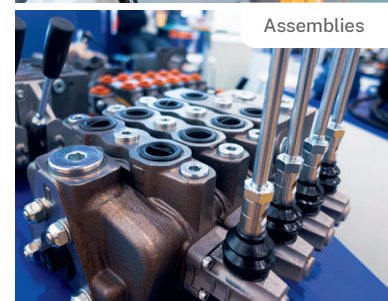


Need assistance...

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



Surface Finishing



Assemblies



CNC-Machining



Stock Keeping