WELD 2 CAST
CASTINGS & FORGINGS

Industry

Challenge | Engineering Solution | Outcome

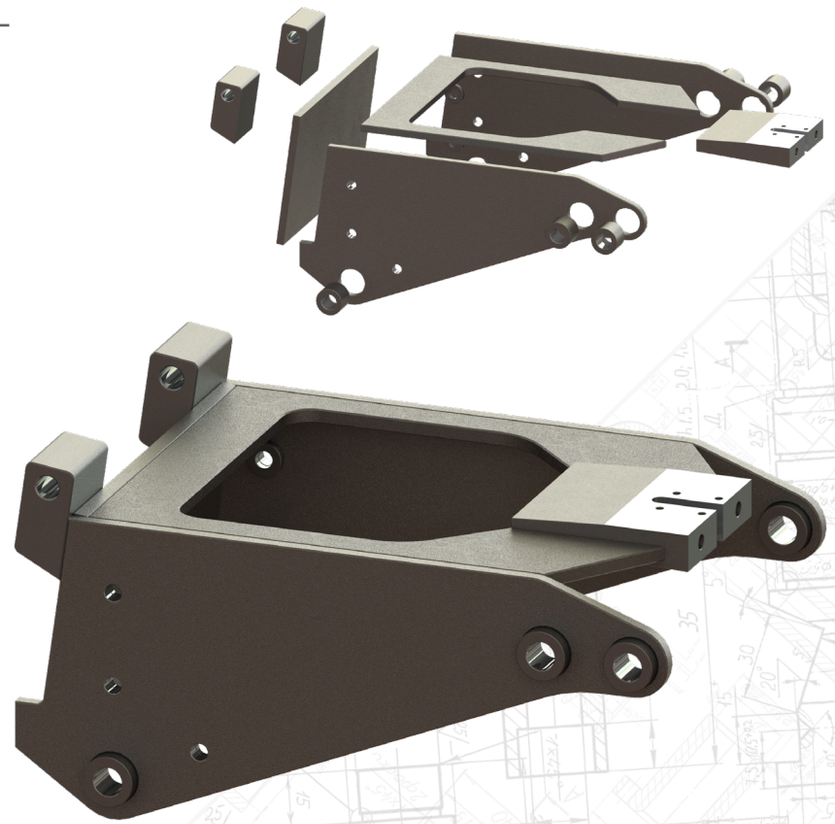
Case study: Frame for Lawnmower

CONVERSION SOLUTION

15-PCS WELDMENT TO ONE-PIECE INVESTMENT STEEL CASTING

Challenge

Interest for development of a stronger, lighter and more cost-efficient frame component in alternative to the present 15 pieces welded component.



BEFORE: WELDMENT

KG Fabrication weight: **25,2 kg/pcs**

Mechanical Properties for S 355J2+N

ReH Yield strength (MPa): 345 N/mm2
Rm Tensile strength (MPa): 470 N/mm2

Weldment

Material Alloy Grade: S355 J2+N acc. to EN 10025

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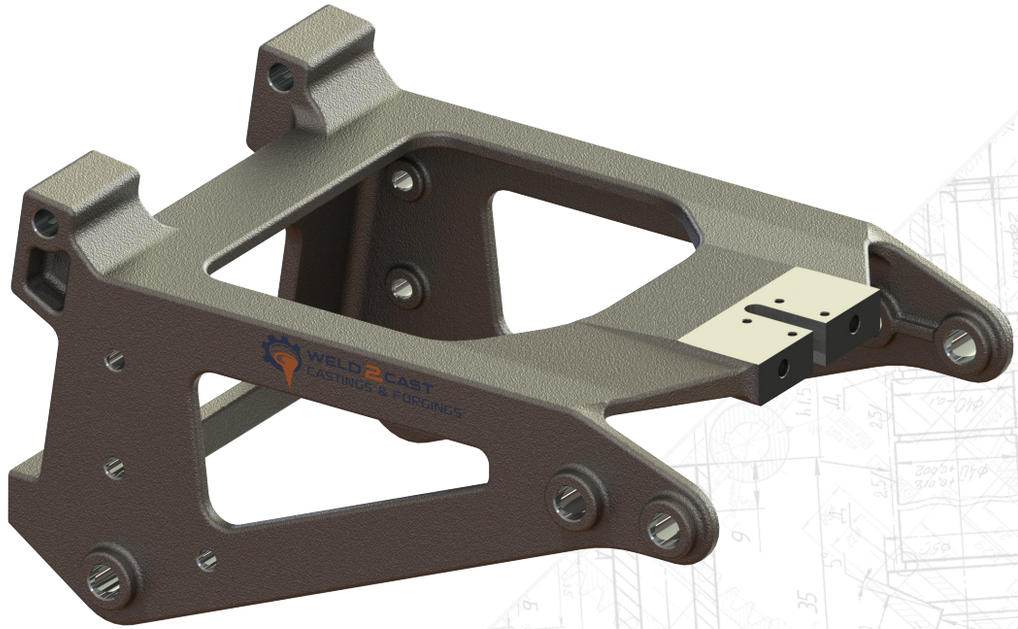
ENGINEERING SOLUTION

HIGH ALLOY STEEL CASTING

AFTER: CASTING | Casting weight: **19,7 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 (Water Glass Process)

Add Value

Finish machining

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ENGINEERING OUTCOME

RESULT OF THE CONVERSION

- 22%

Weight Optimization

From 25,2 kg/pcs in Fabrication to 19,7 kg in High Alloy Casted Steel.

- 43%

Total Cost Reduction

Saving cost by redesign of shape, material & weight.

min. + 29%

Strength Optimization

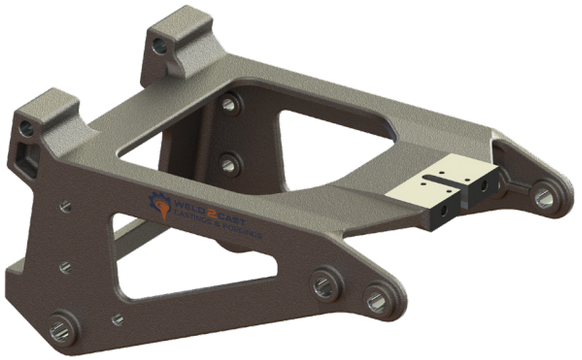
Improve material strength by changing the Steel Fabrication Alloy S355J2+N to High Alloy Casted Steel G 26Mn4 +QT(2).

min. + 50%

Product Efficiency

WELD2CAST transformed a 15-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?