

Formalex® Plus

A new solution for easy conversion
from steel to aluminium



A new solution for easy conversion from steel to aluminium: with high formable alloy **Formalex® Plus**

Constellium developed a door solution, with **Formalex®Plus**, enabling to design a closure in aluminium exactly like in steel

Formalex® Plus formability is similar to steel: this allows to keep the steel design with quasi no change (e.g. for a door inner)

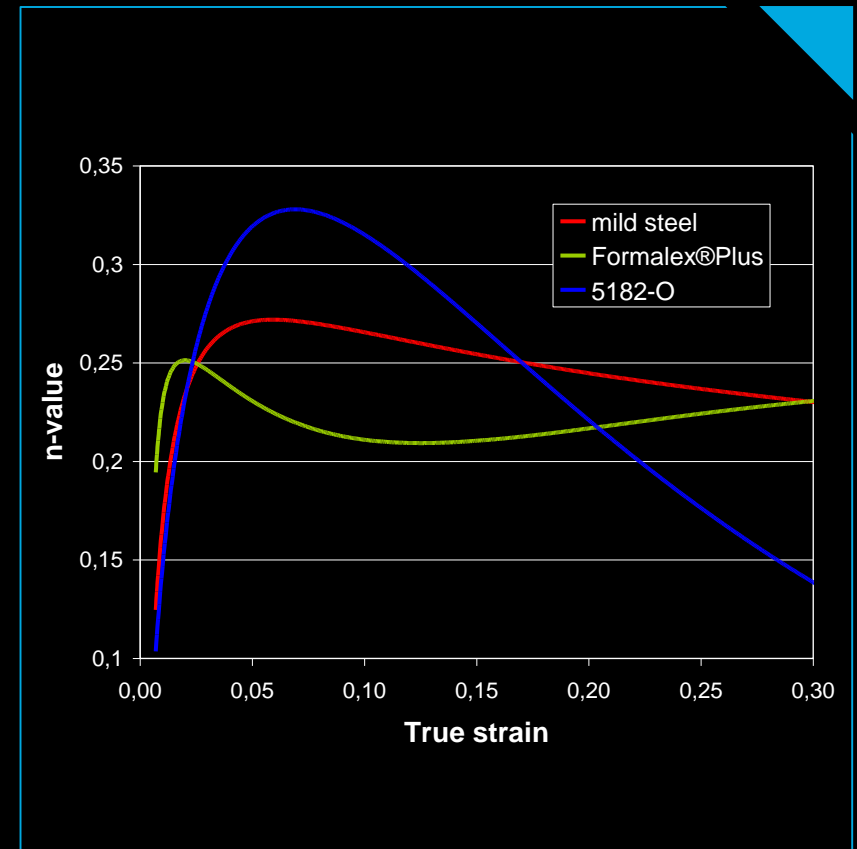
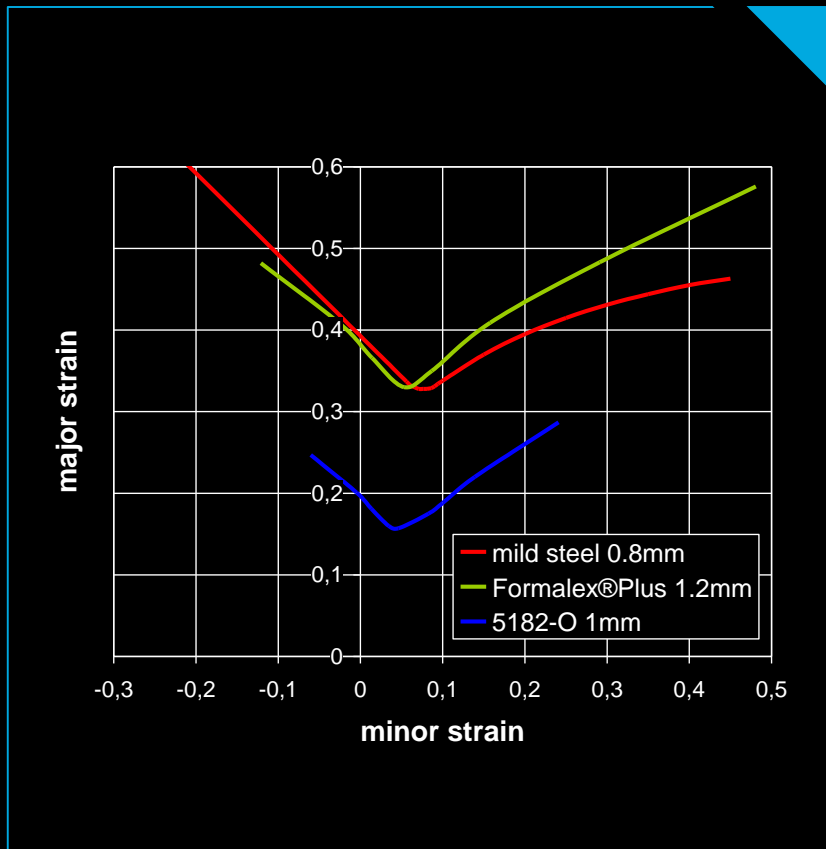
Although **Formalex® Plus** mechanical properties are lower than steel, when combined with our **Formalex®**, **Surfalex®**, **Strongalex®** and **Ultralex®** alloys, we can offer a complete door solution with the required mechanical performance and 40% weight saving

Formalex® Plus is resistant to pitting corrosion

Formalex® Plus is resistant to fatigue

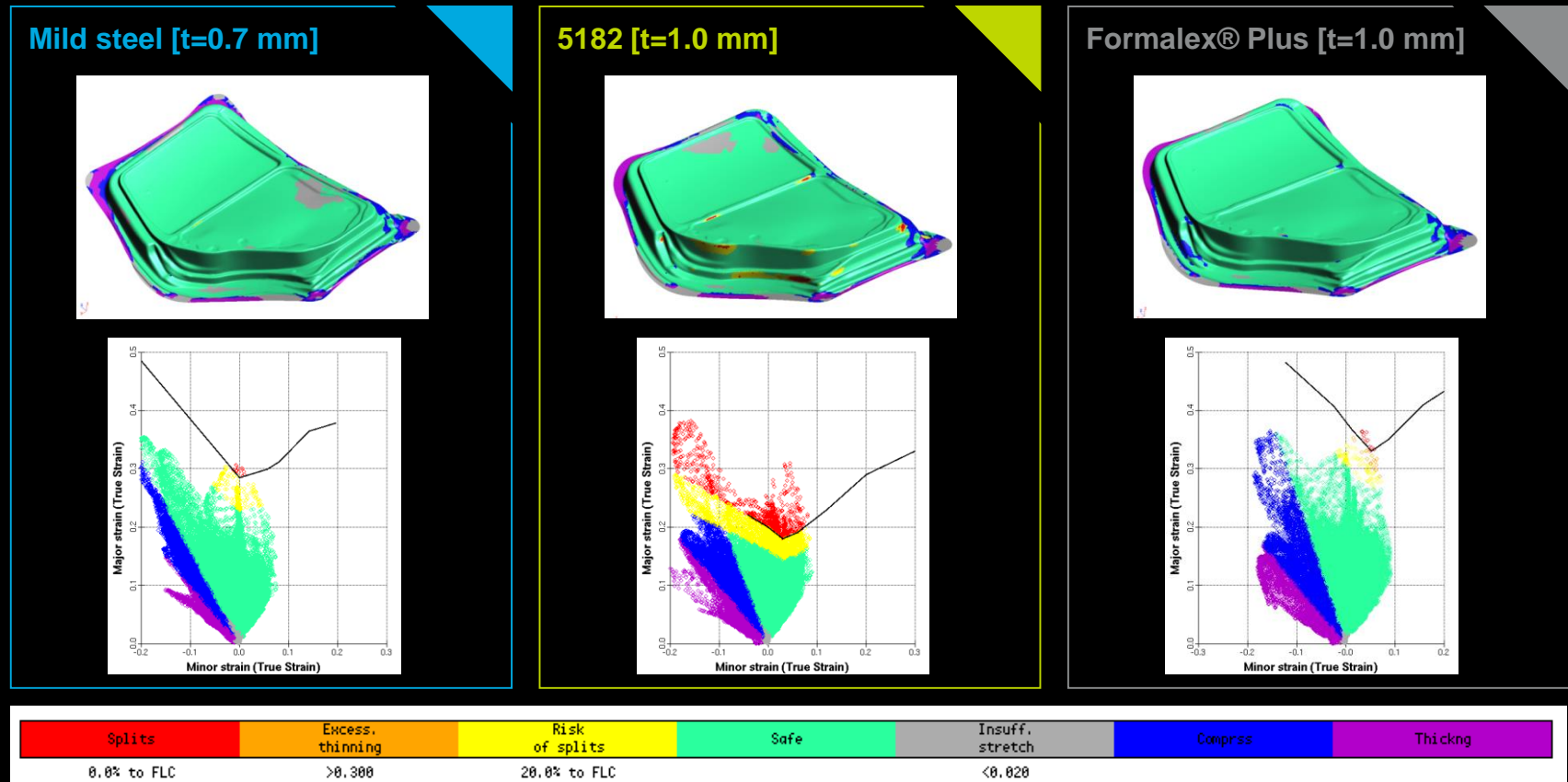
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Formalex® Plus formability is breakthrough in reference with other existing aluminiums alloys and close to mild steel



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Benefits of **Formalex® Plus** compared to standard door inner aluminium alloys AA5182 have been verified by Finite Elements Analysis



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Benefits of **Formalex® Plus** compared to standard door inner aluminium alloys AA5182 have been verified by prototypes and double-checked with industrial steel door geometries stamping without design adaptation

AA5182

2 cracks and wrinkles in the lower corners



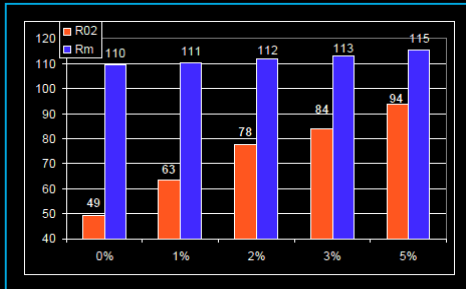
Formalex® Plus

No cracks and beautiful outlook



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Formalex® Plus properties fulfill inner closures needs



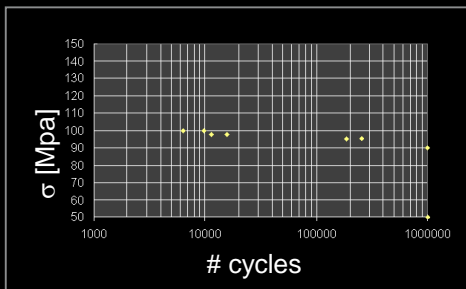
Mechanical properties

In the lower range of aluminium alloys, but may be tuned according to needs with limited impact on formability



Filliform Corrosion

No filliform corrosion sensitivity with dedicated surface preparation



Industrialization

No fatigue sensitivity (resistance to Rm after 100,000 cycles)