



Cost Effective Forming of Lightweight Complex Structures

The Project

The **LoCoLite** project's aim is to establish production lines in Europe that manufacture components for lightweight complex-shaped body structures of automobiles, trains and aircrafts, which are significantly lighter and of comparable strength and stiffness to those currently available.



1st trials cross member

Technological Highlights

The Consortium has now produced two challenging HFQ[®]-formed high-strength aluminium components. The first, a structural cross-member, featured tight bend radii and complex draw features. The part was successfully HFQ formed from high strength alloy AA6082 and ultra-high-strength AA7075. The second was an ultra-light-weight one-piece door inner formed from AA6082. The part demonstrates the deep draw capabilities of HFQ and the use of high-strength grades to reduce component weight. The HFQ formed components were produced at AP&T with process design and manufacturing assistance from Imperial College, Impression Technologies and PAB Coventry.



2nd trials door-inner

Dissemination activities

During the first year of the project, LoCoLite has been presented in various events such as fairs and conferences, and in various articles:

- IFHTSE Congress May, 12th - 15th, 2014, Munich (DE);
- ALUMOTIVE Fair, June 11th 2014, Verona (IT);
- NAFEMS, June 10th -11th 2014, Oxford (UK);
- EuroSPF2014, Aug. 27th - 29th 2014, Lichtenstein;
- Institute of Sheet Metal Engineering Council and Guests, July 16th 2014, Coventry (UK);
- 26th Heat treatment and Material Science in Engineering - Conference and Exhibition, Oct. 8th -12th 2014 Balatonfured (HU);
- EFHTSE, Oct. 11th -13th 2014, Beijing (China);
- Tech Biz Expo, Oct. 22nd -23th 2014, Nagoya (JP);
- Engineering Materials at the beginning of the 21st century. Exhibition and possibilities of surface treatments for the automotive industry, Nov. 27th 2014, Miskolc (HU);
- Trattamenti e Finiture, Sept. 2014, Milano

Consortium

The **LoCoLite** consortium involves 16 companies and research institutes from eight European countries.

Imperial College
London



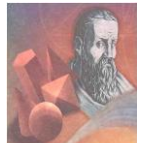
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ANTER

Impression
TECHNOLOGIES



UNIVERSITY OF
BIRMINGHAM



DIAD GROUP



Hellenic Aerospace Industry

Design and Modelling with Steel and Aluminium

MARBEAU
DesignConsultancy