

U-Joints

Adhesives and Fusions, Part III

Gewerbemuseum Winterthur / Switzerland

7 March 2021 to 9 January 2022 (extended)

Opening weekend: Sat/Sun 6/7 March 2021, 10:00-17:00

Instead of a preview. Free admission for all.



Invitation card
Design: Graphic Thought Facility, London

Every kind of construction, whether the result of garage tinkering or high-tech engineering, requires parts to be joined together, and each of these joints exhibits elegant simplicity, practical intelligence and maybe even a stroke of genius. An astonishing variety of materials, shapes and solutions make up the universe of joints. Over the past few years Andrea Caputo and Anniina Koivu have been working on “U-Joints” – an international research project, an exhibition series and an ambitious book project devoted to this huge spectrum of connections – their pure state as well as their applications.

The exhibition at the Gewerbemuseum Winterthur is the third time U-Joints has been shown, following its initial appearance at the Salone del Mobile 2018 in Milan and a show at ECAL, Lausanne in 2019.

This time, the spotlight is on the connective techniques of adhesion and fusion, which rarely attract attention and are only too often regarded as mundane. The exhibition provides an informative and fascinating insight into the versatile strength of adhesives and bonding agents, both traditional and newly developed, which are used in areas ranging from object design and architecture to sports, the food industry and medicine. The second half of “U-Joints – Adhesives and Fusions” covers a wide variety of welding techniques. These range from traditional forge, arc or spot welding through to methods such as high frequency welding or the latest additive manufacturing processes. Some of these techniques are having a big impact on contemporary design and architecture and are paving the way for future developments.

Each technological innovation opens up new opportunities, in terms of design language as well as construction solutions. Then again, putting new architectural and design concepts into practice is always a challenge for industry, which has to develop the necessary new technical solutions. Niche products may be as significant as mass-produced items.

The exhibition at the Gewerbemuseum Winterthur brings together numerous objects, facts and background stories in order to take a closer look at the history and applications of these construction elements, whose unassuming appearance belies their importance.

Examples of exhibition texts

[...] The joint comes in every possible size and material. It might be nanoscale or the size of a room; made of plastic, steel, carbon fibre, wood or wool. A joint might be ingeniously engineered or the result of garage tinkering. Designers, architects and engineers alike appropriate standard connectors; they assemble and personalise them. Sometimes, they invent new joinery from scratch. [...]

Adhesives

Adhesives are, perhaps, the most common joints used on a daily basis. Something breaks, and we reach for a strip of tape or drop of glue to fix it. We have grown up with some of these sticky materials: the Pritt stick, UHU and Vinavil tubes are all used by children, who masterfully put it to use creating collages and paper planes. We watched ACME cartoons, in which Coyote smeared Ajax Stick-All Glue on the road to stop Road Runner. Super glue, Attak and Elmer's glue-all help to reattach the handle to its cup or a sole to its shoe. Scotch tape and Band-aids are go-to brands, when an envelope or a skin abrasion needs sealing. Post-it's are yellow reminders attached to doors and computer screens. Adhesive brands have become generic, household names that are simply a part of our lives.

Largely invisible and often present only as a thin sheen of material, adhesives are easily overlooked, but nonetheless ubiquitous. An indispensable element in our largely man-made world, glues made plywood possible and are key to today's electronics, keeping our washing machines working and our cars from falling apart. They can be found in almost every man-made object, ranging from everyday tools to great works of architecture, to our own human bodies. Whether used internally by doctors and surgeons, digested along with our food, or applied externally – for beauty, using cosmetic products, or in the form of performance-enhancing substances for sports – glue is part of our very beings.

Fusions

The second chapter and half of the exhibition is dedicated to fused joints. These joints are created using a variety of welding processes, as well as through additive manufacturing. Starting from traditional forged iron and progressing to the latest in laser welding techniques, we examine the ways in which two or more parts can be melted and united together: whether they use heat, ultrasound, light, magnetic pulses, friction or electricity. Diving into these welding techniques, it soon becomes clear that a shopping cart, a garden fence and an iconic chair design all employ similar joining techniques. But balloons, pool floats, life vests, kids' toys and the vast majority of disposable medical supplies also exist only thanks to different welding techniques.

Finally, we consider additive manufacturing. This refers to technologies that grow three-dimensional objects, one layer at a time. Each successive layer bonds to the preceding layer of melted or partially-melted material. As a result, the material bonds with itself – without the need for an additional element. The material itself forms the complete product. The final printed object is free of any joint – or, paradoxically, you could say that a 3D printed object is in fact all joint.

On display is a selection of research projects concentrated around some of the latest additive manufacturing processes, which have the potential to lead to the invention of new joining techniques. The U-Joints publication features an open conversation between experts working at the frontier of reinventing the ways we make and join things, discussing where future joints might be found.

Examples of exhibition objects / media images



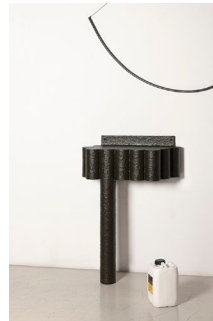
«Homemade adhesive – Gummy bear glue»
Photo: Marco Casino



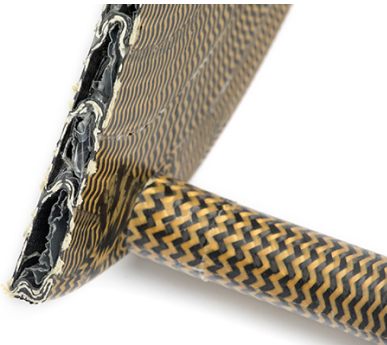
«Homemade adhesive – Eyelash glue»
Photo: Marco Casino



«A portfolio of adhesives – Home improvement and DIY glues», Photo: Simone Sandahl



© Studio Zaven:
«20.17 Tubes Console», 2020



Jonathan Muecke: «Coiled Stool», 2013
Photo: Delfino Sesto Legnani



© Jonathan Muecke: «Coiled Stool», 2013



© Mammut Sports Group AG:
Mammut Light Removable Airbag 3.0, 2020



Marcel Wanders: «Knotted Chair», Cappellini, 1996
© Courtesy Cappellini



Hella Jongerius: «Long Neck and Groove Bottles», 2000
Photo: Gerrit Schreurs



Jerszy Seymour: «Workshop Chair», 2009
Photo: Rinderknecht Design Consulting



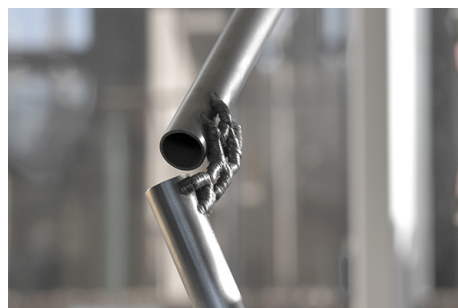
Adrien Rovero: «Shore», 2019 / Photos: James Chiang



Marie Griesmar: «Modules», 2020, «Beneath the Sea, a New Form of Reef», 2016, Rendering: Simon Renfer / © RRReefs



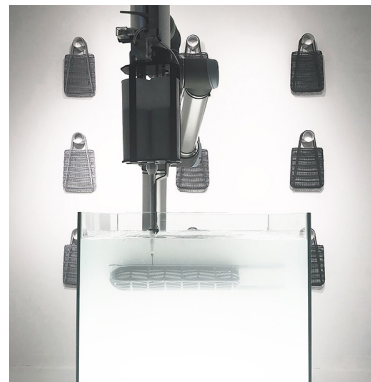
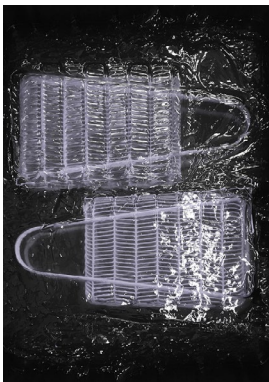
Benjamin Bichsel: Biodegradable Medical Clothing, ECAL, 2020 /
Photo: Alexandra Dautel



Inés Ariza: «Adaptive Detailing», 2017–2020,
© Gramazio Kohler Research Group, ETH Zurich



Free Art and Technology Lab (F.A.T.): The Free Universal Construction Kit, F.A.T. / © F.A.T. Lab and Sy-Lab



© Christophe Guberan + MIT Self-Assembly Lab, Rapid Liquid Print Co.: Rapid Liquid Printing, 2016–today

Exhibition details

“U-Joints or The Art of Connecting Things, Part III” has been curated by Anniina Koivu, Head of Theory Masters, ECAL, and Andrea Caputo, architect, and their team, and organized in collaboration with the Gewerbemuseum Winterthur.

Loans

Designers:

Alvar Aalto (FI) / AATB (CH) / Massimiliano Adami (IT) / Inés Ariza/Gramazio Kohler Research Group ETH (CH) / Benjamin Bichsel (CH) / Maddalena Casadei (IT) / Tom Dixon (UK) / Charles & Ray Eames (US) / The Free Art and Technology Lab F.A.T. (US) / Marie Griesmar (CH) / Christophe Guberan (CH) / Floris Hovers (NL) / Hella Jongerius (NL/DE) / Ville Kokkonen (FI/CH) / Ryuichi Kozeki (JP) / Jonathan Muecke (US) / Gaetano Pesce (IT) / Adrien Rovero (CH) / Raw-Edges (UK) / Adrien Rovero (CH) / Jerszy Seymour (UK/DE) / Studio De Pas, D’Urbino & Lomazzi (IT) / Studio Wieki Somers (NL) / Studio Zaven (IT) / Marcel Wanders (NL) / Lukas Wegwerth (DE) / Oskar Zieta (PL), etc.

Institutions and companies:

AkzoNobel (NL) / Artek (FI) / Arthrex (DE) / Bolton Swiss S.A. (CH) / Cappellini (IT) / CorsiDesign (IT) / Danzer Holding AG (AT) / ECAL – University of Art and Design Lausanne (CH) / Emeco (US) / Freedom of Creation (US) / Fucina (IT) / Hess Medizin Technik AG (CH) / Historisches Museum Basel (CH) / Istituto Italiano della Saldatura (IT) / Kerrdental (US) / Kremer Pigmente GmbH & Co. (DE) / Magis (IT) / Mammuth Sports Group AG (CH) / Mascherpa Spa (IT) / Nittax Corporation (JP) / Rägeboge Winterthur GmbH (CH) / Rapid Liquid Print Co (US) / Revello (IT) / Sarna Plasteck AG (CH) / Self-Assembly Lab, MIT – Massachusetts Institute of Technology (US) / Stora Enso (FI) / Tesa tape Schweiz AG / Vaber Industriale Spa (IT) / Zanotta (IT), etc.

Events

Saturday/Sunday, 6/7 March 2021, 10:00-17:00 daily

Opening weekend (instead of a preview)

Free admission for all.

As soon as it becomes clear when and how events can be held again, details will be posted at www.gewerbemuseum.ch and elsewhere.

Information for media professionals

Media briefing

Individual tours of the exhibition for journalists

Owing to the current situation in relation to Covid-19, we are not holding regular media briefings at present. However, we are offering individual tours of the exhibition for journalists. If you would like to arrange an appointment, please contact Media Relations.

Media Office

Luzia Davi, gewerbemuseum.medien@win.ch, telephone +41 (0)52 267 51 36 (direct line: 68 83)

Media images

High resolution media images are available to download at www.gewerbemuseum.ch. Further photos with views of the exhibition rooms will be provided at the opening. Please respect the rules regarding copyrights and crediting the photographers, and use these images only in connection with reporting on "U-Joints" at the Gewerbemuseum Winterthur. Thank you very much.

Other exhibitions at the Gewerbemuseum Winterthur

Hella Jongerius – Breathing Colour

29 November 2020 to 22 August 2021 (extended!)

[Further information](#)

General information

Gewerbemuseum Winterthur opening hours

Tues to Sun 10 a.m. to 5 p.m., Thurs 10 a.m. to 8 p.m., closed Mon

Special public holiday opening times: www.gewerbemuseum.ch

Admission to Gewerbemuseum Winterthur

Entire museum: CHF 12 / CHF 8

Children + young people up to the age of 16 + school classes: free

Thurs 5 p.m. to 8 p.m. with Legi card: free

Covid-19: exceptional times – special rules

Any amendments to the safety precautions as a result of official guidance, and any programme changes, will be announced on www.gewerbemuseum.ch as they arise.

Gewerbemuseum Winterthur

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