

Joint Master of Architecture, School of Architecture of
Fribourg - CH

Reuse

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Image: dismanteling - edition 1, spring 2023 (Credit: Anouk Ruffieux)



The REUSE seminars of the Master's program take place in a unique setting in Switzerland—the PopUp workshop, jointly created by HEIA-FR and EPFL in 2014. The PopUp serves as both a pedagogical tool and a prototyping space, encouraging new ways of thinking about construction through raw materials. Students engage in full-scale experimentation with real components, fostering creativity beyond conventional frameworks and equipping them to address environmental and social change by rethinking the production of the built environment.

Launched to transform architectural pedagogy, the REUSE seminars create space for student-led inquiry and open-ended processes—an innovative approach in Switzerland. Supported by HES-SO, the umbrella organization for professional schools in French-speaking Switzerland, the seminars explore the reuse of building materials and connect students with professionals whose practices differ from traditional architectural methods. This exposure sharpens students' critical understanding of their field and encourages them to adopt multiple perspectives and consider the diverse roles they may assume in their future careers.

As reuse remains a relatively new field, the seminars embrace experimentation and uncertainty. The open structure invites both students and instructors to engage with questions that require process-oriented thinking rather than fixed solutions. The goal is not technical mastery but the development of creative research approaches. Here, failure and experimentation are valued tools, grounded in respect for materials and the gestures that transform them. Each seminar evolves based on the challenges faced and the emerging themes.

Aligned with the PopUp philosophy, the seminars prioritize materiality and process over formal design outcomes. Students are expected to build, test, adapt, and sometimes radically rethink their projects. Reused materials come with predetermined forms

and characteristics, reversing the typical design process—where form often dictates material—so that the material itself shapes the project. This inversion fosters a responsive and adaptive design mindset.

The first seminar, held in spring 2023, involved 80 students exploring reuse within a reimagined design-build process. Students surveyed an actual deconstruction site to

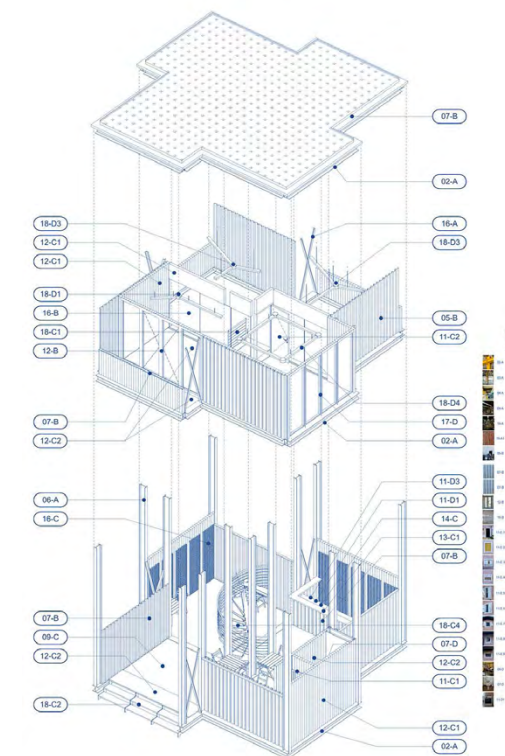


Image: pavilion project - edition 1 spring 2023





Image: assembly tests edition 2 autumn 2023



Image: Pavillion assembly - edition 2, autumn 2023

identify and catalogue reusable components, grouped into four categories: structural elements, outer skin, interior components, and a freely chosen category. They then dismantled elements at three sites, documenting the process, evaluating reuse potential, and detailing the tools and methods used.

In the final phase, student teams designed pavilion proposals for a fictional exhibition on material reuse. Projects included scale models, architectural drawings, and color coding to differentiate reused and new materials. Each group calculated the CO₂ savings of their design, offering both environmental and architectural assessments.

The second seminar, Form Follows Matter, held in autumn 2023, brought together around 70 students to build a full-scale pavilion showcasing the previous seminar's work. Materials were provided by La Ressourcerie, an association promoting reuse. Students tackled both conceptual and technical challenges, working with available elements to create a

coherent structure. This exercise emphasized how, in reuse contexts, material availability and character often override traditional design priorities. As such, material properties—physical, aesthetic, and cultural—shaped the final project.

This experience also deepened students' sensitivity to material histories and fostered a shift in their architectural perception. The constant interplay between design and making required daily updates to a shared coordination plan throughout the five-day workshop, reinforcing the value of adaptability and iterative thinking.

Ultimately, the REUSE seminars and the PopUp workshop promote a pedagogy grounded in process, experimentation, and deep engagement with materials. They prepare students to address an uncertain future not only with technical skill but with empathy, creativity, and contextual awareness—qualities essential for designing in a world shaped by change and resource limitations.



Image: Reuse Pavillion, - edition 2, autumn 2023.



Image: structure and interior cladding - edition 2, autumn 2023

Impact of the EAAE Pedagogy Award

The Reuse Seminar, offered as part of the Joint Master of Architecture program at HEIA Fribourg, is designed as a series of open explorations. Each edition delves into a specific theme related to reuse. Winning the EAAE Pedagogy Award encouraged us to continue with this teaching format, enabling us to launch the third edition, “Form Follows Availability.” The title is the program: form and availability. This edition addresses the implementation and impact of reuse in the construction sector. It questions the aesthetic potential of reuse and assesses its large-scale environmental impact.

The pavilion, built in fall 2023, was given a facelift with a new look using a limited selection of materials available in large quantities. The idea for this selection arose from two considerations. The first was a constructive observation. Each element favors one construction principle over another depending on its dimensions and characteristics. Three types were targeted: overlapping layers, stacked layers, and assemblies of custom-fit pieces. The second consideration is based on availability; materials are only available when they are actually available. Designers no longer choose from a catalog but rather work with the materials they find, that can be dismantled, stored, or used directly. Material hunting strategies are necessary, such as anticipating technical or needs-related expirations.

Reintroducing these materials into the construction process increases the amount of gray energy saved and significantly improves the environmental impact of the “new” building. To raise students’ awareness of this impact, we analyzed the selected materials’ ecological value, source, shaping, and possible treatments and developed a scenario that extrapolates the cladding principle used on the pavilion to a large residential building. This enabled us to estimate the impact of the reuse strategy on a larger scale.

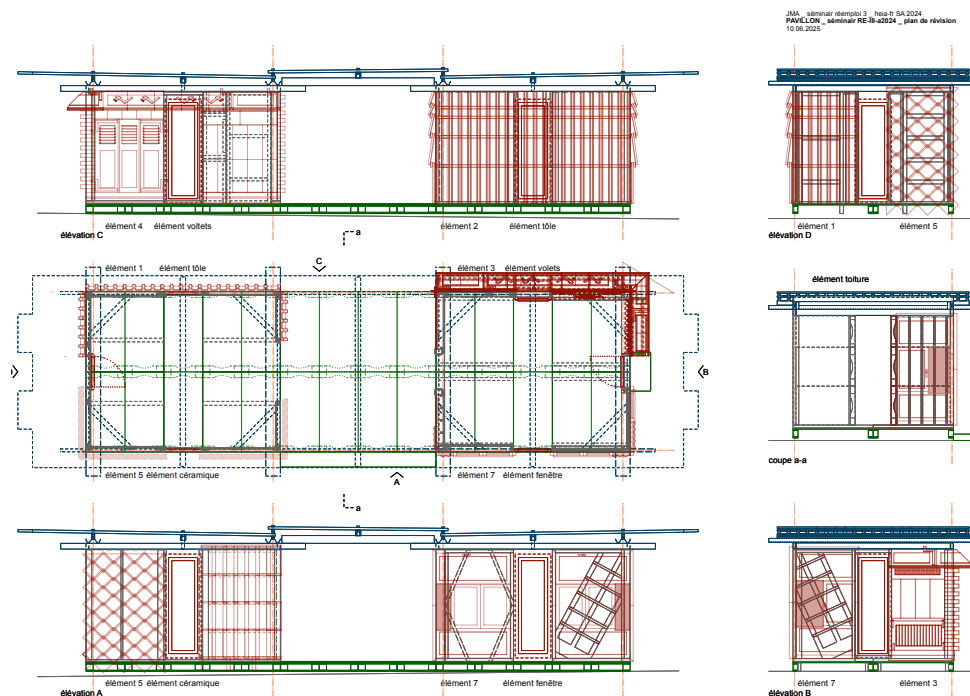


Image: refurbishing, edition 3, autumn 2024



Image: Reuse Pavillion, - edition3 autumn 2024 (Credit:Anouk Ruffieux)

Image: final drawing - edition 3, autumn 2024



The refurbished pavilion validates the existence of an aesthetic of reuse that is far removed from collage and patchwork. It also validates the hypothesis that careful selection and implementation of reused materials guarantees this aesthetic. The contradictory values obtained in the various extrapolation scenarios reveal the difficulty of quantifying the real impact of reuse. Nevertheless, such analyses are useful because they make students aware that materials have limited lifespans and that their potential for reuse depends on their composition and manufacture. Can it be reused for its original purpose? Could it be used as a façade element? Does it need to be adapted? Attention to detail in assembly emphasizes that construction principles must adapt to the available elements' dimensions and characteristics, requiring specific solutions based on the available materials.

The EAAE Pedagogy Award also highlighted the architecture department's strategic priorities at HEIA Fribourg: transformation and sustainable construction. Several publications have helped communicate these priorities to a wider and specialized audience. This has increased the school's influence and reputation. It is planned that the award will contribute to the creation of a publication that will recount the explorations of the various editions of the seminar.

¹ La liberté, Construction durable. Un séminaire de la HEIA Fribourg remporte un prix européen, 16.10.2024

² H.Buri, F.Esquivié, N.Grandjean, Le réemploi, une pédagogie avant d'être une pratique, revue, à paraître en été 2025