

**Zeitschrift:** IABSE congress report = Rapport du congrès AIPC = IVBH  
Kongressbericht

**Band:** 5 (1956)

**Artikel:** Structural steels for welded structures

**Autor:** [s.n.]

**DOI:** <https://doi.org/10.5169/seals-6049>

### **Nutzungsbedingungen**

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

### **Conditions d'utilisation**

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

### **Terms of use**

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

**Download PDF:** 05.01.2026

**ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>**

assemblies, the determination of their mechanical and metallurgical efficiencies, and the calculation of their strength and safety.

Constructors have been won over to the idea that general designs for welded structures cannot be based simply on the traditional designs for riveted structures, but must develop in the direction of arrangements that are better adapted to the peculiarities of welded structures. However, the synthesis of these considerations has yet to be effected. Attention is drawn to certain trends which have become apparent in some fields of metallic engineering structures, particularly in the case of hydraulic structures, such as sluice gates for dams, and lock-gates. There is a growing tendency to make use of relatively thin metal sheets employed in the form of elements which take the fullest advantage of surface continuity allied to that of sufficient flexibility to avoid the unfavourable effects of the rigidity of welded assemblies and the sensitivity towards welding of members of considerable thickness. The study of the stiffening of these plates is making substantial progress and large bridges have been constructed, or are in course of construction, in accordance with these techniques, particularly those in which the main bearing members are of the box section type.

### IIIb

#### *Structural steels for welded structures*

Co-operation between metallurgists, welders and constructors has resulted, in most countries, in the standardisation of the types of steel known as weldable steels, which are adapted to the requirements of the various types of welded structures.

The relative character of the conception of weldability is generally recognised nowadays. The combined efforts of metallurgists, welders and constructors should lead to the development of a range of steels which will enable welded structures to be fabricated economically. The final step that has to be taken is the standardisation of a few fairly simple tests to be made on delivery and capable of being applied to steels suitable for welded structures, according to their size and complexity.

### IIIc

#### *Various welding methods for the execution of welded steel construction*

Although the very nature of welded structures makes it inevitable that manual welding should be retained to a large extent, considerable progress has been achieved in the utilisation of automatic and semi-automatic welding. These processes are of particular interest for the fabrication of members which happen to be duplicated a certain number of times in a single engineering structure.

The use of special treatments, such as pre-heating and local or generalised thermal treatment, as well as the utilisation of certain special welding processes, may be taken into consideration when this is rendered necessary by the nature of the steel, the structural design and the purpose for which the structure is intended.