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**Information technology —
Programming languages — C++
Extensions for concepts**

*Technologie de l'information — Langues de programmation —
Extensions C++ pour les concepts warning*

Reference number
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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

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The committee responsible for this document is ISO/IEC JTC 1, *Information technology, SC 22, Programming languages, their environments and system software interfaces*.

1 General

[intro]

1.1 Scope

[intro.scope]

- ¹ This Technical Specification describes extensions to the C++ Programming Language (1.2) that enable the specification and checking of constraints on template arguments, and the ability to overload functions and specialize class templates based on those constraints. These extensions include new syntactic forms and modifications to existing language semantics.
- ² The International Standard, ISO/IEC 14882, provides important context and specification for this Technical Specification. This document is written as a set of changes against that specification. Instructions to modify or add paragraphs are written as explicit instructions. Modifications made directly to existing text from the International Standard use underlining to represent added text and ~~striketrough~~ to represent deleted text.
- ³ WG21 paper N4191 defines “fold expressions”, which are used to define constraint expressions resulting from the use of *constrained-parameters* that declare template parameter packs. This feature is not present in ISO/IEC 14882:2014, but it is planned to be included in the next revision of that International Standard. The specification of that feature is included in this document.

1.2 Normative references

[intro.refs]

- ¹ The following referenced document is indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.
 - ^(1.1) — ISO/IEC 14882:2014, *Programming Languages – C++*

ISO/IEC 14882:2014 is hereafter called the *C++ Standard*. The numbering of Clauses, sections, and paragraphs in this document reflects the numbering in the C++ Standard. References to Clauses and sections not appearing in this Technical Specification refer to the original, unmodified text in the C++ Standard.