

Document: N1487
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In F.10 (Mathematics), insert a subclause after F.10.10:

F.10.11 Comparison macros

Inequality operators and their corresponding comparison macros (7.12.14) produce equivalent result values, even if argument values are represented in wider formats. Thus, comparison macro arguments represented in formats wider than their semantic types are not converted to the semantic types, unless the wide evaluation method converts operands of inequality operators to their semantic types. The standard wide evaluation methods, characterized by `FLT_EVAL_METHOD` equals 1 or 2 (5.2.4.2.2), do not convert operands of inequality operators to their semantic types.

Rationale: 7.12.14 does not specify whether widened arguments of comparison macros are narrowed to their semantic types. F.10.11 specifies this behavior, in keeping with the Annex F goal of predictable floating-point behavior. Not narrowing widened arguments is consistent with the macros' being "quiet" versions of the comparison operators. For the standard wide-evaluation methods and most others, converting arguments to long double would enable portable implementation.