# ISO/IEC TS 19570:2018-11 (E)

## Programming Languages - Technical Specification for C++ Extensions for Parallelism

## Contents


Page

**Foreword** iv

**1 Scope** 1

**2 Normative references** 2

**3 Terms and definitions** 3

**4 General** 4
4.1 Namespaces and headers . . . 4
4.2 Feature-testing recommendations . . . 4

**5 Parallel exceptions** 5
5.1 Header `<experimental/exception_list>` synopsis . . . 5

**6 Execution policies** 6
6.1 Header `<experimental/execution>` synopsis . . . 6
6.2 Unsequenced execution policy . . . 6
6.3 Vector execution policy . . . 6
6.4 Execution policy objects . . . 7

**7 Parallel algorithms** 8
7.1 Wavefront Application . . . 8
7.2 Non-Numeric Parallel Algorithms . . . 9

**8 Task Block** 16
8.1 Header `<experimental/task_block> synopsis` . . . 16
8.2 Class `task_cancelled_exception` . . . 16
8.3 Class `task_block` . . . 16
8.4 Function template `define_task_block` . . . 18
8.5 Exception Handling . . . 19

**9 Data-Parallel Types** 20
9.1 General . . . 20
9.2 Header `<experimental/simd>` synopsis . . . 20
9.3 `simd` ABI tags . . . 24
9.4 `simd` type traits . . . 26
9.5 Where expression class templates . . . 27
9.6 Class template `simd` . . . 30
9.7 `simd` non-member operations . . . 37
9.8 Class template `simd_mask` . . . 42
9.9 Non-member operations . . . 46