

HullScant

Release 2

WOLFSON UNIT

FOR MARINE TECHNOLOGY AND INDUSTRIAL AERODYNAMICS

HullScant Program

HullScant is the Wolfson Unit's hull scantlings program for motor and sailing vessels under 24 metres.

The program calculates the actual scantling structural properties of a vessel and compares these with the requirements set out in the ISO standard 12215-5:2019 for fibre reinforced plastic, metal and wood monohull boats.

HullScant is specifically designed for all builders and designers conducting a scantling assessment and will greatly simplify the process of Recreational Craft Directive design category assessment for pleasure craft. The program will also aid the preparation of the owner's manual for commercial craft and workboats within ISO 12215-5:2019 Annex J.

HullScant can calculate requirements and properties for boats constructed of aluminium alloys, steel, wood and fibre reinforced plastics of both single skin and sandwich construction.

The latest HullScant release builds on the strengths and successes of Release 1, which has been used for 15+ years by designers and notified bodies worldwide.

New Features

- Ability to extract boat dimensions and data from an IGES definition of the hull form.
- Ability to import IGES NURBS surfaces and curves for the definition of panels and stiffeners respectively.
- Simplified and enhanced assessment methods, as defined in Section 11 and Annexes A, H.
- Assessment against additional workboat requirements, as defined in Annex J.
- Assessment against loads induced by outboard engines, as defined in Annex K.

Workflow

The user builds a set of libraries of materials, laminates and stiffeners which can then be used to calculate the actual structural properties of the vessel scantlings and can be compared to the ISO 12215-5:2019 requirements.

Reporting

Results can be presented in HTML and PDF format with a built-in results browser to produce neat, readable and quickly navigable tables. Results tables can be customised to suit any report format.

Help System

Full online help system describing the hull scantlings definition process and calculation methods. Full glossary of terms used.

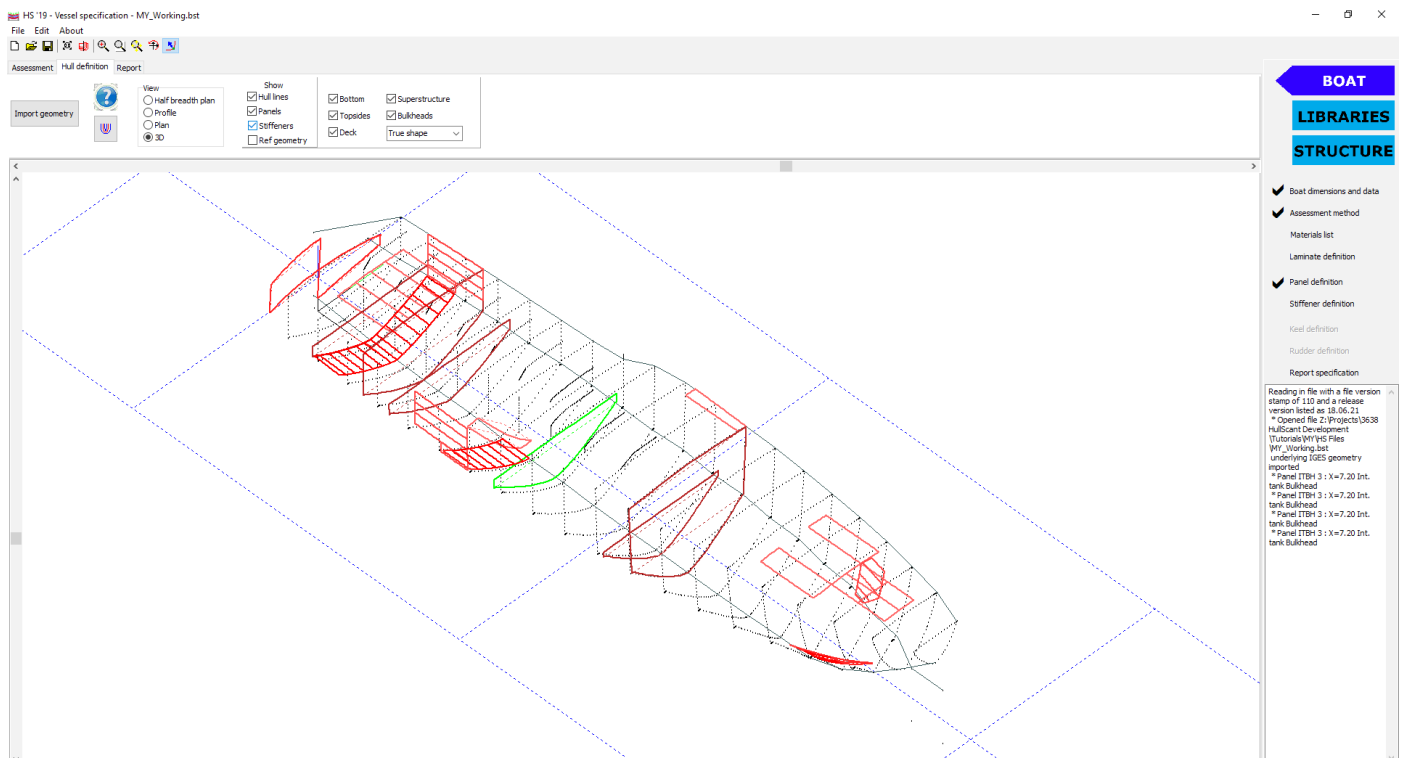
Please note the program should be used in conjunction with the ISO 12215-5(2019) standard.

Information for Existing Clients

- HullScant Release 1 (R1) is end-of-life and, as of July 2021, has been withdrawn from sale.
- R1 will remain on the Wolfson Unit website as a free download to licensed R1 clients.
- Existing R1 clients can keep their license when purchasing R2.

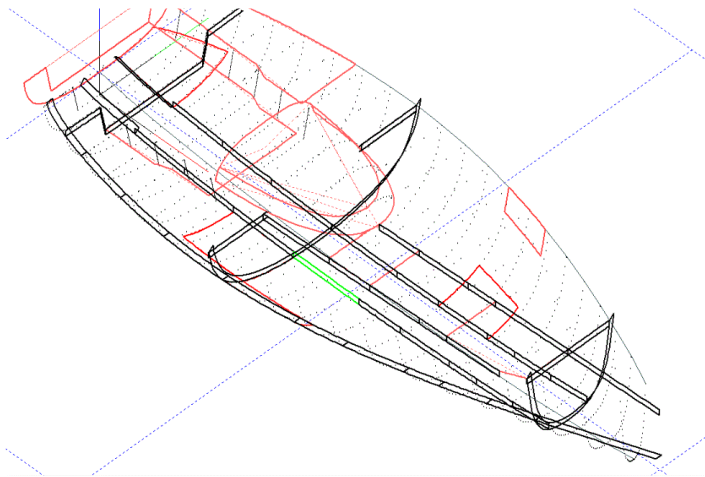
Price Information

- Please see www.wolfsonunit.com/software/price-list
- Second copies available at 65%, subsequent copies at 50% of price.
- Educational discount of 33% on total price.
- Time-limited licensing is available.
- List price includes software support from WUMTIA engineers.



IGES Import

Hullscant can read in IGES NURBS surfaces (as per Initial Graphics Exchange Specification 5.3) either as reference geometry or panels and stiffeners. Surfaces are converted to panels and curves converted to the 'footprint' of stiffeners, with non-rectangular surfaces automatically converted to equivalent ISO shapes. Trimmed and untrimmed surfaces can be read, as can compound curves, lines and standard NURBS curves.



Imported S/Y Definition Showing Hull Lines, Panels and Stiffeners

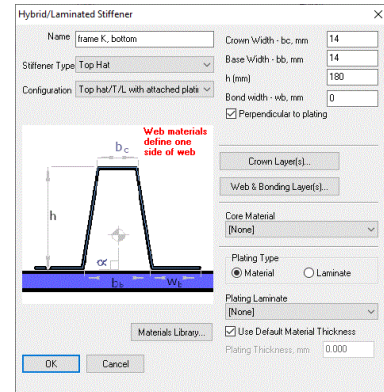
Hullscant has been validated with the IGES export from a range of CAD packages. Technical details are available from the Wolfson Unit on request.

Materials Library

The complete materials library from the ISO 12215-5 standard, including mechanical properties for steel, aluminium, wood, core materials and glass, aramid and carbon reinforced plastic is provided in the program. Users can enter custom material properties from their own test data or other sources. User defined materials libraries can be stored and re-used on other projects.

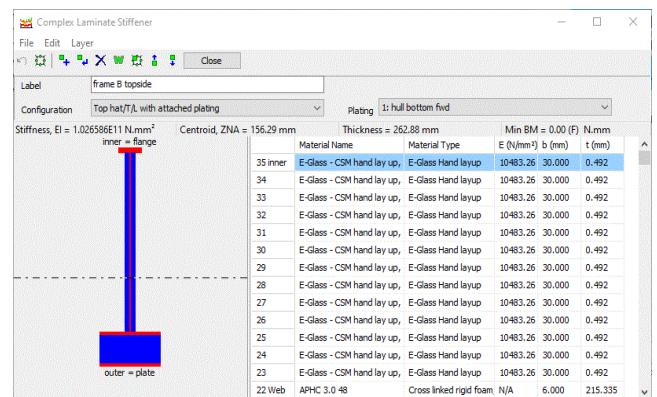
Panels and Stiffeners

- Import/input panel and stiffener dimensions and location to obtain requirements based on the ISO 12215-5(2019) standard.
- Input panels and stiffeners are shown on the vessel view and can be easily selected for manipulation of the input data.
- Produce and analyse simple metal or single skin plating, or complex sandwich laminates.
- Input and analyse standard types of stiffeners including L, T, bar, top-hat and wood shaped stiffeners.



Hybrid/Laminated Stiffener Dialog

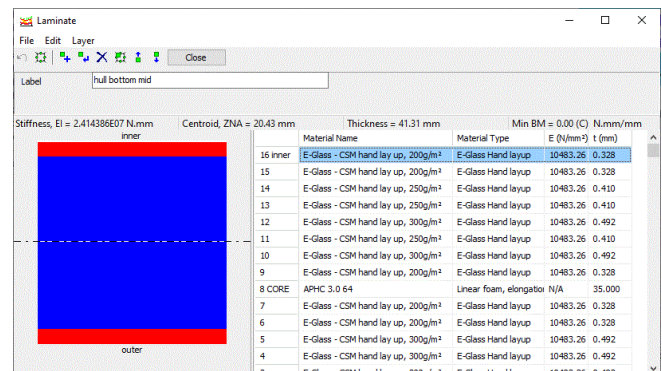
- Generate and analyse a range of laminated stiffeners by quickly defining web, crown and taping laminates.
- Generate and analyse complex stiffener shapes.



Complex Laminate Stiffener Window

Laminate Stack Analysis

- Laminate stack analysis for calculating actual structural properties of panel laminates and stiffener lay ups.
- Laminate and stiffener bending stress and shear force analysis.



Laminate Window