

Which MAXSURF version meets your requirements?

Introduction

There are three levels of MAXSURF license available:

- MAXSURF (entry level)
- MAXSURF Advanced
- MAXSURF Enterprise

Many of the modules are the same across all three license levels but for some of the modules, increased functionality is available at the higher license levels.

Module	MAXSURF (entry level)	MAXSURF Advanced	MAXSURF Enterprise
Modeler	✓		
Modeler Advanced		✓	✓
Stability	✓		
Stability Advanced		✓	
Stability Enterprise			✓
Structure	✓		
Structure Advanced		✓	✓
Multiframe		✓	
Multiframe Advanced			✓
Motions		✓	
Motions Advanced			✓
Resistance	✓	✓	✓
VPP	✓	✓	✓
<i>Link and Fitting (merged into Modeler)</i>	✓	✓	✓

Feature comparison per module

Modeler

Modeler exists in two versions (entry level and Advanced). The Advanced version is available under the MAXSURF Advanced and Enterprise licenses.

The entry level version of Modeler can create models which are limited to a small number of NURBS surfaces.

The Advanced version of Modeler can be used to generate models of significantly greater detail and complexity because of the greatly increased number of NURBS surfaces which may be used in the model. In addition, the parametric transformation capability and the COM automation interface are available in the Advanced version allowing automation of the application from (for example) VBA macros in Microsoft Excel.

Stability

Stability exists in three versions (entry level, Advanced and Enterprise). The Advanced version is available under the MAXSURF Advanced license and the Enterprise version under the MAXSURF Enterprise license.

The entry level version of Stability can be used for intact hydrostatics only and provides a small number of analysis modes (Upright Hydrostatics, Large Angle Stability and Equilibrium).

The Advanced version of Stability greatly increases the number of analysis modes available (all except Probabilistic Damage). Damage analysis, including partial flooding, is available as is the COM automation interface.

The Enterprise version of Stability can take advantage of multi-core CPUs and adds the Probabilistic Damage analysis mode as well as an Auto-Ballasting function for loadcases.

Motions

Motions exists in two versions (entry level and Advanced). The entry level version is available under the MAXSURF Advanced license and the Advanced version under the MAXSURF Enterprise license.

The entry level version of Motions can compute motion RAOs using strip theory for vertical plane motions (heave and pitch) as well as a simple estimate of the roll motion RAO.

The Advanced version of Motions adds a six-degree-of-freedom, zero-speed radiation-diffraction panel method analysis capability.

Structure

Structure exists in two versions (entry level and Advanced). The Advanced version is available under the MAXSURF Advanced and Enterprise licenses.

The entry level version of Structure can be used to define and expand hull surface plates (including plates with double curvature) as well as computing the shell expansion diagram.

The Advanced version of Structure adds the ability to define and expand longitudinal stiffeners (stringers, girders and longitudinal bulkheads); transverse bulkheads; decks and frames.

Multiframe

Multiframe exists in two versions (entry level and Advanced). The entry level version is available under the MAXSURF Advanced license and the Advanced version under the MAXSURF Enterprise license.

The entry level version of Multiframe can be used to define and perform static, structural analysis of models containing beam members and stiffened plates.

The Advanced version of Multiframe adds the ability to compute deflection modes and perform dynamic, time history analysis.

Selection table

Capability	MAXSURF	MAXSURF Advanced	MAXSURF Enterprise
Modeling – hull geometry			
Complexity of NURB surface model (max. number of surfaces)	20	1200	1200
Tools for fitting NURBS surfaces to structured and unstructured point data	✓	✓	✓
Geometry import and export from / to various file formats (including DGN, IGES, DXF, 3DM, etc.)	✓	✓	✓
Parametric transformation of NURBS model		✓	✓
Automated modeling through COM		✓	✓
America's Cup rule calculation		✓	✓
Modeling – for stability analysis			
Key points, Margin line, Load-cases	✓	✓	✓
Room layout (tanks, compartments, etc)		✓	✓
Modeling – hull structure			
Hull plates (including shell expansion calculation)	✓	✓	✓
Transverse frames; decks		✓	✓
Longitudinal stiffeners: stringers, girders and bulkheads		✓	✓
Shell expansion diagram	✓	✓	✓
Hydrostatic analysis			
Upright hydrostatics, Large Angle Stability (GZ curve), Equilibrium	intact only	✓	✓
Specified condition, Cross Curves (KN), Limiting KG, Floodable Length, Longitudinal Strength, Tank Calibration, MARPOL Outflow, Cross-Flooding		✓	✓
Auto-Ballasting of Loadcases			✓
Probabilistic Damage analysis			✓
Stability criteria compliance		✓	✓
Intact stability	✓	✓	✓
Damage stability with partial flooding		✓	✓
Spilling tanks		✓	✓
Reporting	✓	✓	✓
Multi-core solver			✓
Automated analysis through COM		✓	✓
Hydrodynamic analysis			
Strip theory (heave and pitch), simple roll estimate		✓	✓
Radiation-diffraction (6 DOF, zero speed)			✓
Significant motions, MSI, MII		✓	✓
Automated analysis through COM		✓	✓
Hull Resistance and Sailing Performance analysis			
Hull resistance regression methods for different types of monohull vessels	✓	✓	✓
Slender body resistance algorithm	✓	✓	✓
Estimate of far-field wave pattern	✓	✓	✓
Velocity prediction for sailing yachts	✓	✓	✓
Automated analysis through COM	✓	✓	✓
Structural analysis			
Linear analysis of 3D structural frame and stiffened plate models		✓	✓
Non-linear and buckling analysis of frame models		✓	✓
Section properties calculator		✓	✓
Local steel code checks (AS4100, AS4600, NZS3404)			✓
Dynamic modal response and time history analysis			✓
International steel design code checks (AIJ, ASD, LRFD, AISI BS5950, EC3)			✓
Automated modeling and analysis through COM		✓	✓