



## Certificate of General Approval

This is to certify that the undernoted Loading Computer Software has been examined in accordance with the relevant Classification Rules and Procedures, and the applicable Statutory Regulations and is approved for the functions stated below and detailed on the Supplement attached hereto.

<b>Company</b>	<b>Kongsberg Maritime AS</b>
<b>Address</b>	Kirkegårdveien 45, Kongsberg, 3616, Norway
<b>Software Name</b>	K-LOAD
<b>Software ID/Version Number</b>	5
<b>Minimum Hardware Specifications</b>	Processor: 4GHz, Hard Drive: SSD 250 GB, No CDROM, RAM: 8 GB, Monitor: 27"
<b>Operating System</b>	Windows 10 or later.
<b>User's Operations Manual ID</b>	--
<b>Approved Functions</b>	<input checked="" type="checkbox"/> Strength <input checked="" type="checkbox"/> IACS UR L 5 Type 1 - Intact Stability <input checked="" type="checkbox"/> IACS UR L 5 Type 2 - Damage Stability (Limiting Curves) <input checked="" type="checkbox"/> IACS UR L 5 Type 3 - Damage Stability (Direct Calculatlions) <input type="checkbox"/> IACS UR L 5 Type 4 - Damage Stability (Safe Return to Port)
<b>Strength Design Appraisal Document</b>	SOUTSO/HULL/32397468/A & UKITSO/HULL/43036682
<b>Stability Design Appraisal Document</b>	WP4799702 & UKITSO/SLT/43322364

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## Supplement

### Strength Features

Bulkhead Shear Force Correction Factors – Ship rules	Yes
Bulkhead Shear Force Correction Factors - CSR Before 1st July 2015	Yes
Bulkhead Shear Force Correction Factors - CSR From 1st July 2015	Yes
Permissible Cargo Torque	No
Strength With Any Single Hold Flooded (URS17)	Yes
Local Double Bottom Strength (URS1A)	Yes
Permissible Shear Forces and Bending moments	Single & Multiple

### Intact Stability Features

Hydrostatic Data	3D Hullform
Tank capacity Data	3D Geometry
Cross curve Data	3D Hullform
Down-flooding Data	3D Points
General Criteria Check	Intact Stability Code, as amended - MSC267(85)
Weather Criteria	Intact Stability Code, as amended - MSC267(85)
Windage Data	Direct area calculation
Timber Criteria Check	No
Timber Cargo Water Absorption	No
Ice Accumulation	Deadweight item
Inland Waterways (ADN) (1)	No
Free Surface Moment calculation	Directly calculated from tank geometry taking heel and trim into account
GZ Curve Calculation	Corrected by the real shifting moment
Free Surface Select Options for Each Tank	No
Grain Stability	Trimmed and partly filled data (pre-programmed); Trimmed, untrimmed and partly filled data (pre-programmed); Allowable grain heeling moments check (pre-programmed); Grain stability criteria direct calculation and check
Limiting KG/GM Curves	Single parameter (limit versus even keel draught or displacement); Two parameters (limit versus trimmed draught or displacement); Multiple parameters (see Design Appraisal Document)

### Damage Stability Features

- (1) Type C Tank Ships, Tank Width > 0.7B  
(2) Applicable to Type 3 functionality only

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Limiting KG/GM Curves

Single parameter (limit versus even keel draught or displacement); Two parameters (limit versus trimmed draught or displacement); Multiple parameters (see Design Appraisal Document); Combined intact and damage limit curve option

Direct Calculations

Pre-programmed damage cases; Five intermediate flooding stages (2); Intact reference displacement (2)

Operational Information for Safe Return to Port

No

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