KOMPAS

KOMposit-overbygninger til større PASsagerskibe
(Composite Super-structures for large passenger ships)

Partners

DBI - Danish Institute of Fire and Security Technology (lead)

Niels Hjørnet Yacht Design

Support: (non-complete list of 9 companies)

Scandlines

MAERSK

DTU Technical University of Denmark

DTU Mechanical Engineering
Department of Mechanical Engineering

DTU Civil Engineering
Department of Civil Engineering

- Lightweight Structures group (Mech)
- Fire Engineering group (Civil)
- Maritime group (Mech)

Funding (2 years)

+ co-funding from DTU and DBI

Challenges

Complicated and time demanding analysis of fire safety according to SOLAS II-2, Rule 17

Barrier for further development and use of FRP in larger civillian vessels

Large pontential for retrofit and new-builds of ships using FRP

Aims

- KOMPAS aims at making the path easier for design and retrofit of FRP super-structures for larger passager ships for
  - yards / design consultants
  - sub-suppliers
  - ship owners
  - authorities

- Adopt a standalized approach through guidelines combined with (pre-) fire proven FRP structural standard components

Demonstration platform

Route	Puttgarden-Rødby
Type	RoPax
Construction year	1997/2003
Gross tonnage	14,822
Shipbuilder	Ørskov Staalskibsværft, Denmark
Flag	Danish
Engines	4 pc Mak, type 8M32 / 1 pc MAN type 6L32 / 44CR
KW	17,440
Length, oa	142 m
Breadth incl. fender	25.4 m
Service speed	18.5 kn
Length, oa	1 track, 118 m
Lanemeter, lorries	580
Lanemeter, cars	1,747
Car capacity	364
Passenger capacity	1,140

Work packages

WP 1: Dissimination and distribution of knowledge

WP 2: Structural design, analysis and testing

WP 3: Fire testing and analysis

WP 4: Development of new Rule 17 guidelines for analysis- and testing procedures

Budget

Work packages	Budget, DKK
WP 0: Project management	975.000
WP 1: Dissimination and distribution of knowledge	2.130.000
WP 2: Structural design, analysis and testing	1.040.000
WP 3: Fire testing and analysis	1.713.000
WP 4: Development of new Rule 17 guidelines for analysis- and testing procedures	342.000
	6.200.000

Outputs

Structures	• Possible development of (pre-) fire proven standard components for super-structures
Guidelines	• Open SOLAS II-2, Rule 17 design guidelines for ship yards, consulting engineers as well as authorities – a path through the analysis!
Demonstration	• Application of guidelines on a representative large passenger vessel
Recommendations	• Recommendations for possible changes to the SOLAS-rules, to ease the analysis phase without compromising the fire safety

KOMPAS: Contacts

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We invite <u>any</u> interested companies and partners to make contact with the group throughout the project to share input and results!