DICTIONARY OF MARINE TECHNOLOGY

An essential dictionary for anyone involved in the ship design, classification, building and survey, operation, maintenance and ship repairs.

A must for translators and students at technical universities and maritime academies.


BAOBAB NAVAL CONSULTANCY

Picture courtesy of Viking Line
DICTIONARY
OF
MARINE TECHNOLOGY

Compiled by
Katarzyna Babicz & Jan Babicz

GDAŃSK 2014
Acknowledgements

We would like to thank shipping companies, shipyards and individuals who have provided us with pictures, illustrations and information used in this book. We would like to thank Mr Cezary Spigarski who made a valuable contribution to the Picture Dictionary. A final thank you goes to Mr Dominik Gawlak who prepared the book for printing.

Katarzyna Babicz & Jan Babicz
Gdańsk November 2014
Foreword to the First Edition

There are a lot of new rules and regulations issued by IMO and Authorities to ensure safer shipping. However, safety at sea depends on many factors. The last but not least is the good knowledge of professional maritime English. This knowledge is significant at all the stages: during the ship design, construction and operation.

Poor English will always cause problems; a badly written Contract or Specification can be the reason for costly misunderstanding and troublesome delays. How can we expect a proper operation of complicated systems and devices if their technical manuals are difficult to understand?

We believe the improvement of professional marine English in design offices, shipyards and onboard ships is a very important factor of maintaining safety at sea, and this dictionary was intended as our modest contribution in this huge task.

The terms in the dictionary have been carefully selected and checked. However, nothing is perfect and we would be grateful for any corrections or suggestions on how to make it better.

Katarzyna Babicz
Maritime English Translator & Consultant

Jan Babicz
Consulting Naval Architect & Ship Surveyor
STRUCTURE, PHONETICS AND LABELS

The dictionary is built of four parts: the main body consisting of alphabetically organized entries, the list of most frequently used acronyms and abbreviations and the picture dictionary illustrating various equipment and systems. Main entries also feature phonetic transcription and symbols indicating part of speech.

The following short forms and symbols are used in the dictionary:

**Phonetic transcription**

<table>
<thead>
<tr>
<th>Consonants:</th>
<th>Vowels and diphthongs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>pen</td>
</tr>
<tr>
<td>b</td>
<td>back</td>
</tr>
<tr>
<td>t</td>
<td>ten</td>
</tr>
<tr>
<td>d</td>
<td>day</td>
</tr>
<tr>
<td>k</td>
<td>key</td>
</tr>
<tr>
<td>f</td>
<td>fat</td>
</tr>
<tr>
<td>g</td>
<td>get</td>
</tr>
<tr>
<td>v</td>
<td>view</td>
</tr>
<tr>
<td>θ</td>
<td>thing</td>
</tr>
<tr>
<td>o</td>
<td>this</td>
</tr>
<tr>
<td>s</td>
<td>soon</td>
</tr>
<tr>
<td>z</td>
<td>zero</td>
</tr>
<tr>
<td>f</td>
<td>ship</td>
</tr>
<tr>
<td>ʒ</td>
<td>pleasure</td>
</tr>
<tr>
<td>h</td>
<td>hot</td>
</tr>
<tr>
<td>x</td>
<td>loch</td>
</tr>
<tr>
<td>tʃ</td>
<td>cheer</td>
</tr>
<tr>
<td>dʒ</td>
<td>jump</td>
</tr>
<tr>
<td>m</td>
<td>sum</td>
</tr>
<tr>
<td>n</td>
<td>sun</td>
</tr>
<tr>
<td>ŋ</td>
<td>sung</td>
</tr>
<tr>
<td>w</td>
<td>wet</td>
</tr>
<tr>
<td>l</td>
<td>let</td>
</tr>
<tr>
<td>r</td>
<td>red</td>
</tr>
<tr>
<td>i</td>
<td>yet</td>
</tr>
</tbody>
</table>

**Short forms:**
adj. – adjective
adv. – adverb
etc. – etcetera
n. – noun
phr. v. – phrasal verb
v. – verb
Abaft /əˈbaːft/ adv. – Toward the stern of the ship.
Abandon /əˈbændən/ v. –
1. To leave someone, especially someone you are responsible for.
2. To go away from a place, vehicle etc, permanently, especially because the situation makes it impossible for you to stay.
Abandon vessel – To evacuate crew and passengers from a vessel following a distress.
Abandonment /əˈbændənmənt/ n. – All operations required for breaking out stowage and the safe disengagement and clearing away of the life-saving equipment with full complement from the stricken ship.
Abandonment and Recovery (A&R) System (pipelaying equipment) – The system provided to lay the pipe down on operation completion or the onset of harsh weather and for recovering the pipe after such an event. The system may consist of a hydraulic or electric motor driven traction winch, storage winch and sheaves.
Able-bodied seaman (A.B.) – A member of the deck crew who is able to perform all the duties of an experienced seaman; must have three years of sea service.
Abnormal condition – A condition that occurs in a process system when an operating variable (flow, pressure, temperature, etc.) ranges outside of its normal operating limits.
Aboard /əˈboːd/ adv. – On or within the ship.
Abrasion /əˈbreɪzən/ n. – Scraping or wearing away, rubbing off.
Abrasion resistance – Resistance to frictional rubbing.
Abrasive /əˈbreɪsiv/ n. – Agent used for blast cleaning before coating application.
Abrasive blasting – Cleaning of steel with dry sand or steel grit propelled by compressed air jet preparatory to painting.
Absorbent material – Substance that is able to take in moisture, oil, etc.
AC grounding conductor (green) – A conductor, normally not carrying current, used to connect the metallic non-current carrying parts of electrical equipment to the AC system and engine negative terminal or its bus, and to the shore AC grounding conductor through the shore power cable.
A-class divisions – Smoke and fire resistant divisions formed by insulated steel bulkheads and decks complying with the SOLAS standard fire test criteria.
Accelerate /əkˈsɛləreɪt/ v. - To increase in speed.
Acceleration /əkˈsɛlərəʃn/ n. – The rate of velocity change or the average increase of velocity in a unit time, usually expressed in meters per square seconds (m/s²).
Accelerometer /əkˈsɛlərəˌmətə(r)/ n. – A mechanical or electromechanical instrument that measures acceleration.
Acceptance tests, acceptance trials – A series of tests performed on a material, a machine or a system, in the presence of the purchaser or a surveyor to demonstrate suitable quality or operation.
Access equipment – Cargo access equipment such as stern ramps, side ports, bow doors, etc.
Accessibility /əkˈsɛsɪbɪlətI/ n. – The ability for personnel to access equipment easily that requires maintenance, inspection, removal or replacement while wearing the appropriate clothing, including personal protective equipment and using all necessary tools and test equipment.
Accident /ˈækstɪdənt/ n. – An event that happens unexpectedly and causes damage, injury, etc.
Accident categories (acc. to Lloyds Maritime Information Services casualty database) – The LMIS casualty database divides the accidents into the following categories:
backing wind – Shift of wind direction. A backing wind is a wind that turns counter-clockwise with height (opposite of veering).

backing ring – Backing in the form of a ring, generally used in the welding pipe.

backing pass, backing weld – A weld pass made for a backing weld.

backpressure n. – The pressure existing on the exhaust side of a system, e.g. the pressure opposing the motion of an engine piston during its exhaust stroke.

back-up /ˈbækəp/ n. – Additional people who provide help when it is needed.

back-up navigator – Any individual, generally an officer, who has been designated by the vessel master to be on call if assistance is needed on the bridge.

baffle plate – A plate used to direct fluid flow, e.g. the hot gases in a boiler furnace or the oil in a sump tank.

bagged cargo – Various kinds of commodities usually packed in sacks or in bags, such as sugar, cement, milk powder, onion, grain, flour, etc.

balance ratio – The ratio, in a balanced rudder, of the blade area situated forward of the rudderstock to that of the area abaft.

bale /ˈbeɪl/ n. – A large bundle or package prepared for shipping, storage, or sale, esp. one tightly compressed and secured by wires, hoops, cords, or the like, and sometimes having a wrapping or covering.

bale capacity, bale cubic – The cubic capacity of a cargo hold measured to the inside of the frames or cargo battens.

ball valve – see stop valves.

ballast /ˈbælst/ n. – Any solid or liquid weight placed in a ship to increase the draft, to change the trim, or to regulate the stability.

clean ballast – The ballast in a tank which, since oil was last carried therein, has been so cleaned that effluent there from if it were discharged from a ship which is stationary into clean calm water on a clear day would not produce visible traces of oil on the surface of the water or
13. MULTI-PURPOSE OFFSHORE CONSTRUCTION VESSEL

**MULTI-PURPOSE OFFSHORE CONSTRUCTION VESSEL NORMAND INSTALLER**

LOA = 123.65m, LBP = 110.00m, Bmld = 28.00m, Dmld = 11.00m


Illustration courtesy of Wärtsilä Corporation
14. PIPELAYING VESSELS

Reeled Rigid Pipelaying Ship SEVEN OCEAN
1. Main pipe reel 2. Coated rigid pipe 3. Pipelaying tower consisting of Aligner wheel, Pipe straightener, Tensioner, Enclosed workstation, Hang-off clamp, Roller box
4. Heave compensated offshore mast crane 5. Knuckle boom crane

1. Main storage reel 2. Aligner wheel 3. Tiltable lay ramp

Illustration courtesy of IHC Merwede
Photo courtesy of Huisman-Itrec
1. Deck plating
2. Deck longitudinal
3. Deck stringer plate
4. Sheer strake
5. Side shell
6. Side longitudinal
7. Wing ballast space
8. Bilge plating
9. Bilge keel
10. Outboard girder
11. Double bottom ballast space
12. Bottom longitudinal
13. Bottom shell plating
14. Keel plating
15. Centreline girder
16. Floor plating
17. Outboard girder
18. Hopper web plating
19. Horizontal girder in wing ballast tank
20. Vertical web in wing ballast tank
21. Wing cargo tank deck transverse
22. Centre cargo tank deck transverse
23. End bracket
24. Bracket toe
25. Vertical web centre cargo tank
26. End bracket
27. Radius face plate
28. Cross tie
29. End bracket
30. Bracket toe
31. Inner bottom
32. Inner bottom longitudinal
33. Centre cargo tank
34. Longitudinal bulkhead longitudinal
35. Longitudinal bulkhead
36. Inner hull longitudinal bulkhead
37. Wing cargo tank
38. Inner hull longitudinal bulkhead longitudinal
39. Hopper plating
1. Steering gear compartment
2. Tiller
3. Rudder carrier
4. Rudder stock
5. Rudder trunk
6. Rudder stock bearing
7. Rudder stock nut
8. Rudder horn
9. Pintle
10. Pintle nut
11. Bolted inspection cover
12. Rudder blade
13. Leading edge
14. Trailing edge
15. Stainless steel sleeves

Drawing C. Habina
Photos J. Babicz
Lifeboat standard wording according to MSC.1/Cir.1205
1. Crosshead bearing cup
2. Crosshead
3. Guide shoe
4. Crosshead bearing shell, lower part
5. Connecting rod
6. Crankpin bearing shells
7. Crankpin bearing cup
8. Stud
9. Nut
10. Counterweight
11. Telescope pipe

Illustrations courtesy of MAN Diesel
DICTIONARY OF MARINE TECHNOLOGY

An essential dictionary for anyone involved in the ship design, classification, building and survey, operation, maintenance and ship repairs.

A must for translators and students at technical universities and maritime academies.