

DIN EN 14504:2016-09 (E)

Inland navigation vessels - Floating landing stages and floating equipment on inland waters - Requirements, tests

Contents		Page
European Foreword		4
1	Scope	5
2	Normative references	5
3	Terms and definitions	6
4	General requirements	7
4.1	Components	7
4.2	Strength	7
4.3	Buoyancy and stability	7
4.3.1	General	7
4.3.2	Intact stability	7
4.3.3	Damaged stability	8
4.4	Anchorage for floating structures	8
4.5	Structural requirements	8
4.5.1	General	8
4.5.2	Freeboard	9
4.5.3	Floating bodies	9
4.5.4	Materials for filled buoyancy bodies	9
5	Equipment	9
5.1	Railings, barrier	9
5.2	Life-saving equipment	9
5.3	Device for mooring vessels	10
5.4	Lighting	10
5.5	Electrical equipment	10
5.6	Storage spaces	10
6	Walkways	10
6.1	General	10
6.2	Connecting bridge	10
7	Testing	11
7.1	General	11
7.2	Strength	11
7.3	Stability	11
7.3.1	Intact stability	11
7.3.2	Damaged stability	11
8	Marking	11
8.1	Maximum draught	11
8.2	Manufacturer's mark	11
9	Instructions for use	11
Annex A (normative) Design situations for floating structures on inland waters		12
A.1	General	12
A.2	Design situations for floating landing stages and floating landing bridges	12

A.3	Design situations for floating jetties	13
A.4	Effect on floating constructions	14
A.5	Permanent actions	15
A.6	Live load	15
A.7	Hydrodynamic actions	17
A.8	Vessel berthing impact	19
A.8.1	General	19
A.8.2	Vessel berthing impact according to Figure A.3	19
A.8.3	Vessel berthing impact according to Figure A.4	20
A.8.4	Vessel berthing impact according to Figure A.5	23
A.8.5	Vessel berthing impact according to Figure A.6	24
A.9	Vessel static pull of the moored vessel	25
A.10	Vessel friction	26
A.11	Wind load	26
A.12	Special loads	27
References		28
Figures Figure A.1 -- Actions on floating landing stages		15
Figure A.2 -- Hydrodynamic action on floating constructions		17
Figure A.3 -- Springing by means of explicit spring elements		20
Figure A.4 -- Springing by immersion of floating body		23
Figure A.5 -- Rigid floating body - shore connection		24
Figure A.6 -- Springing through inclination of slideway and connecting bridge		25
Tables Table A.1 -- Combination matrix and partial safety coefficients F for floating landing stages and floating landing bridges		13
Table A.2 -- Combination matrix and partial safety coefficients F for floating jetties		14
Table A.3 -- Factor k1 as a function of the width-draught ratio B/T		22
Table A.4 -- Factor k2 as a function of the draught-water depth ratio T/h		22
Table A.5 -- Standard berthing velocity v0 as a function of the vessel mass mS		22
Table A.6 -- Factors b1 and b2 for determining the berthing velocity v		22