

	ITTC – Recommended Procedures and Guidelines	0.0 Page 1 of 11	
	REGISTER	Effective Date 2022	Revision 10

ITTC – Recommended Procedures and Guidelines

Register

0.0 Register

Updated by	Approved
Quality Systems Group of the 29 th ITTC	29 th ITTC 2021
Date 04/2021	Date 06/2021

	ITTC – Recommended Procedures and Guidelines	0.0 Page 2 of 11	
	REGISTER	Effective Date 2022	Revision 10

Section		Contents	Effective Date	Revision	Pages
0		REGISTER	2021	8	11
1.0		SCOPE			
1.0-01		Description and Rules of the ITTC	2017	3	18
1.0-02		Committee Structure of ITTC	2014	3	4
1.0-03	G	General Guideline for the Activities of Technical Committees, Liaison with Executive Committee and Advisory Council	2017	1	9
1.0-04	P	Decision Making Between Conferences	2014	0	4
1.0-05	G	Guidelines for delegates representing ITTC vis-à-vis external bodies	2017	0	3
1.0-06	G	Guidelines for ITTC Conference Organisers	2021	1	6
4.0		QUALITY MANAGEMENT SYSTEM			
4.0-01	G	Guidelines for Benchmarking	2002	1	12
4.2		DOCUMENT AND DATA CONTROL			
4.2-01	P	Adoption or Modification of ITTC Recommended Procedures	2017	3	6
4.2-02	P	Updating the ITTC Symbols & Terminology List	2017	3	5
4.2-03	P	Review of ITTC Recommended Procedures and Guidelines by the Advisory Council	2017	1	5
4.2-04	P	Updating the ITTC Dictionary of Hydromechanics	2011	0	5
4.2.3		Document Control			
4.2.3-01		Recommended Procedures and Work Instructions			
4.2.3-01-01	P	Guide for the Preparation of ITTC Recommended Procedures	2021	3	5
4.2.3-01-02	G	Guidelines for Preparation of Technical Committee and Group Reports	2017	4	7
4.2.3-01-03	W	Work Instruction for Formatting ITTC Recommended Procedures	2021	4	11
4.2.4		Control of Records			
4.2.4-01		Documentation of interim changes to ITTC Recommended Procedures and Guidelines			
4.2.4-01-01		Record of Interim decision regarding ITTC Recommended Procedures and Guidelines	2017	0	4

	ITTC – Recommended Procedures and Guidelines	0.0 Page 3 of 11	
	REGISTER	Effective Date 2022	Revision 10

Section		Contents	Effective Date	Revision	Pages
7.5		PROCESS CONTROL			
7.5-01		TEST PREPARATION			
7.5-01-01		Ship Models			
7.5-01-01-01	P	Ship Models	2017	04	9
7.5-01-02		Propeller Models			
7.5-01-02-01	P	(Terminology and Nomenclature for Propeller Geometry) Deleted	2017		
7.5-01-02-02	P	Propeller Model Accuracy	2017	01	8
7.5-01-03		Instrumentation, Calibration			
7.5-01-03-01	P	Uncertainty Analysis, Instrument Calibration	2017	02	17
7.5-01-03-02	P	Uncertainty Analysis, Laser Doppler Velocimetry Calibration	2008	00	14
7.5-01-03-03	G	Guideline on the Uncertainty Analysis for Particle Image Velocimetry	2014	01	18
7.5-01-03-04	G	Benchmark for PIV(2C) and SPIV(3C) setups	2017	01	18
7.5-02		TESTING AND EXTRAPOLATION METHODS			
7.5-02-01		General			
7.5-02-01-01	P	Guide to the Expression of Uncertainty in Experimental Hydrodynamics	2014	2	18
7.5-02-01-02		(Uncertainty Analysis in EFD, Guidelines for Resistance Towing Tank Tests) Replaced by 7.5-02-02-02	2011		
7.5-02-01-03	P	Fresh Water and Seawater Properties	2011	2	46
7.5-02-01-04	G	Guideline on Best Practices for the Applications of PIV/SPIV in Towing Tanks and Cavitation Tunnels	2014	0	27
7.5-02-01-05	G	(Model-Scale Propeller Cavitation Noise Measurements) Moved to 7.5-02-03-03.9	2021		
7.5-02-01-06	P	Determination of a type A uncertainty estimate of a mean value from a single time series measurement	2021	1	9
7.5-02-01-07	G	Guideline to Practical Implementation of Uncertainty Analysis	2021	1	12
7.5-02-01-08	P	Single Significant Amplitude and Confidence Intervals for Stochastic Processes	2017	0	16



ITTC – Recommended Procedures and Guidelines

0.0

Page 4 of 11

REGISTER

Effective Date
2022

Revision
10

Section		Contents	Effective Date	Revision	Pages
7.5-02-02		Resistance			
7.5-02-02-01	P	Resistance Tests	2021	5	14
7.5-02-02-02	G	General Guidelines for Uncertainty Analysis in Resistance Tests	2021	3	13
7.5-02-02-02.1	G	Example for Uncertainty Analysis of Resistance Tests in Towing Tanks	2021	1	16
7.5-02-02-02.2	G	Practical Guide for Uncertainty Analysis of Resistance Measurements in Routine Tests	2021	1	7
7.5-02-02-03	G	Resistance and Propulsion Test and Performance Prediction with Skin Frictional Drag Reduction Techniques	2017	0	13
7.5-02-02-04		Wave Profile Measurement and Wave Pattern Resistance Analysis	2021	0	11
7.5-02-03		Propulsion			
7.5-02-03-01		Performance			
7.5-02-03-01.1	P	Propulsion/ Bollard pull Test	2021	6	17
7.5-02-03-01.2	P	(Uncertainty Analysis Example for Propulsion Test) Deleted	2021		
7.5-02-03-01.3	PC	Podded Propulsor Tests and Extrapolation	2021	2	21
7.5-02-03-01.4	P	1978 ITTC Performance Prediction Method	2021	5	19
7.5-02-03-01.5	G	Predicting Powering Margins	2017	2	10
7.5-02-03-01.6	G	Hybrid Contra-Rotating Shaft Pod Propulsors Model Test	2017	1	11
7.5-02-03-01.7	P	Performance Prediction Method for Unequally Loaded, Multiple Propeller Vessels	2021	1	11
7.5-02-03-01.8	G	Scaling Method for ship wake fraction with pre-swirl devices	2021	0	7
7.5-02-03-02		Propulsor			
7.5-02-03-02.1	P	Open Water Test	2021	4	10
7.5-02-03-02.2	P	(Uncertainty Analysis, Example for Open Water Test) Deleted	2021		
7.5-02-03-02.3	P	Nominal Wake Measurements by LDV, Model Scale Experiments	2014	1	12
7.5-02-03-02.4	P	Nominal Wake Measurement by a 5-Hole Pitot Tube	2011	1	12
7.5-02-03-02.5	G	Experimental Wake Scaling Methods	2017	1	8

	ITTC – Recommended Procedures and Guidelines		0.0	
	REGISTER		Page 5 of 11	Effective Date 2022

Section		Contents	Effective Date	Revision	Pages
7.5-02-03-03		Cavitation			
7.5-02-03-03.1	P	Model-Scale Cavitation Test	2017	4	10
7.5-02-03-03.2	P	Description of Cavitation Appearances	2014	2	9
7.5-02-03-03.3	P	Cavitation Induced Pressure Fluctuations Model Scale Experiments	2014	5	16
7.5-02-03-03.4	P	Cavitation Induced Pressure Fluctuations Numerical Prediction Methods	2014	2	8
7.5-02-03-03.5	P	Cavitation Induced Erosion on Propellers, Rudders and Appendages Model Scale Experiments	2011	2	14
7.5-02-03-03.6	G	Podded Propulsor Model Scale Cavitation Test	2011	2	11
7.5-02-03-03.7	P	Prediction of Cavitation Erosion Damage for Unconventional Rudders or Rudders Behind Highly-Loaded Propellers	2017	1	13
7.5-02-03-03.8	P	Modelling the Behaviour of Cavitation in Waterjets	2008	0	13
7.5-02-03-03.9	G	Model-Scale Propeller Cavitation Noise Measurements	2021	2	26
7.5-02-04		Ice Testing			
7.5-02-04-01	G	General Guidance and Introduction to Ice Model Testing	2021	3	9
7.5-02-04-02	P	Test Methods for Model Ice Properties	2021	3	19
7.5-02-04-02.1	P	Resistance Tests in Ice	2017	2	8
7.5-02-04-02.2	P	Propulsion Tests in Ice	2017	1	8
7.5-02-04-02.3	PC	Manoeuvring Tests in Ice	2021	1	7
7.5-02-04-02.4	P	(Tests in Deformed Ice) Deleted	2017		
7.5-02-04-02.5	P	Experimental Uncertainty Analysis for Ship Resistance in Ice Tank Testing	2005	0	16
7.5-02-04-03	G	Guidelines for Modelling of Complex Ice Environments	2021	1	15

 ITTC INTERNATIONAL TOWING TANK CONFERENCE	ITTC – Recommended Procedures and Guidelines		0.0 Page 6 of 11	
	REGISTER		Effective Date 2022	Revision 10

Section		Contents	Effective Date	Revision	Pages
7.5-02-05		High Speed Marine Vehicles			
7.5-02-05-01	P	High Speed Marine Vehicles Resistance Test	2017	3	19
7.5-02-05-02	P	High Speed Marine Vehicle Propulsion Test	2017	3	7
7.5-02-05-03.1	P	Waterjet Propulsive Performance Prediction - Propulsion Test and Extrapolation	2011	2	10
7.5-02-05-03.2	P	Waterjet System Performance	2017	2	10
7.5-02-05-03.3	P	Uncertainty Analysis - Example for Waterjet Propulsion Test	2017	2	11
7.5-02-05-04	P	Seakeeping Tests	2021	2	14
7.5-02-05-04.1	P	Excerpt of ISO 2631, Seasickness and Fatigue	1999	0	6
7.5-02-05-05	P	Evaluation and Documentation of HSMV	2014	2	6
7.5-02-05-06	P	Structural Loads	2021	1	6
7.5-02-05-07	P	(Dynamic Instability Tests) Withdrawn	2021		
7.5-02-06		Manoeuvrability			
7.5-02-06-01	P	Free Running Model Tests	2021	4	12
7.5-02-06-02	P	Captive Model Test Procedure	2021	6	20
7.5-02-06-03	P	Validation of Manoeuvring Simulation Models	2021	4	14
7.5-02-06-04	P	Uncertainty Analysis for manoeuvring predictions based on captive manoeuvring tests	2021	3	47
7.5-02-06-05	G	Uncertainty Analysis for free running model tests	2021	2	16
7.5-02-06-06	G	Benchmark Data for Validation of Manoeuvring Predictions	2021	0	12
7.5-02-06-07	G	Captive Model Test for Underwater Vehicles	2021	0	8

 ITTC INTERNATIONAL TOWING TANK CONFERENCE	ITTC – Recommended Procedures and Guidelines	0.0 Page 7 of 11	
	REGISTER	Effective Date 2022	Revision 10

Section		Contents	Effective Date	Revision	Pages
7.5-02-07		Loads and Responses			
7.5-02-07-01		Environmental Modelling			
7.5-02-07-01.1	G	Laboratory Modelling of Multidirectional Irregular Wave Spectra	2017	1	14
7.5-02-07-01.2	G	Laboratory Modelling of Waves	2021	1	28
7.5-02-07-01.3	G	(Guidelines for Modelling of Complex Ice Environments) Moved to 7.5-02-04-03	2021		
7.5-02-07-01.4	P	Confidence Intervals for Significant Wave Height and Modal Period	2017	0	5
7.5-02-07-01.5	G	Laboratory Modelling of Wind	2021	0	10
7.5-02-07-01.6	G	Laboratory Modelling of Currents	2021	0	8
7.5-02-07-02		Seakeeping			
7.5-02-07-02.1	P	Seakeeping Experiments	2021	7	33
7.5-02-07-02.2	P	Predicting of Power Increase in Irregular Waves from Model Tests	2021	6	14
7.5-02-07-02.3	P	Experiments on Rarely Occurring Events	2021	6	13
7.5-02-07-02.4	P	(Validation of Seakeeping Computer Codes in the Frequency Domain) Deleted	2014		
7.5-02-07-02.5	P	Verification and Validation of Linear and Weakly Nonlinear Seakeeping Computer Codes	2021	3	25
7.5-02-07-02.6	P	Global Loads Seakeeping Procedure	2021	2	17
7.5-02-07-02.7	P	Sloshing Model Tests	2021	1	14
7.5-02-07-02.8	P	Calculation of the weather factor f_w for decrease of ship speed in waves	2021	1	20

 ITTC INTERNATIONAL TOWING TANK CONFERENCE	ITTC – Recommended Procedures and Guidelines	0.0 Page 8 of 11	
	REGISTER	Effective Date 2022	Revision 10

Section		Contents	Effective Date	Revision	Pages
7.5-02-07-03		Ocean Engineering			
7.5-02-07-03.1	P	Floating Offshore Platform Experiments	2021	3	12
7.5-02-07-03.2	P	Analysis Procedure for Model Tests in Regular Waves	2021	3	5
7.5-02-07-03.3	P	(Model Tests on Tanker-Turret Systems) Deleted	2014		
7.5-02-07-03.4	P	(Active Hybrid Model Tests of Floating Offshore Structures with Mooring Lines) Deleted	2021		
7.5-02-07-03.5	P	Passive Hybrid Model Tests of Floating Offshore Structures with Mooring Lines	2021	3	8
7.5-02-07-03.6	P	Dynamic Positioning System Model Test Experiments	2021	2	10
7.5-02-07-03.7	G	Wave Energy Converter Model Test Experiments	2021	2	18
7.5-02-07-03.8	P	Model Tests for Offshore Wind Turbines	2021	2	19
7.5-02-07-03.9	P	Model Tests for Current Turbines	2021	2	20
7.5-02-07-03.10	G	Guideline for VIV Testing	2021	1	16
7.5-02-07-03.11	G	Guideline for Model Tests of Stationary Multi-Bodies Operating in Close Proximity	2021	1	6
7.5-02-07-03.12	G	Uncertainty Analysis for a Wave Energy Converter	2021	1	18
7.5-02-07-03.13	G	Guideline for VIM Testing	2021	1	10
7.5-02-07-03.14	P	Analysis Procedure of Model Tests in Irregular Waves	2021	1	6
7.5-02-07-03.15	G	Uncertainty analysis - Example for horizontal axis turbines	2021	1	14
7.5-02-07-03.16	G	Model Construction of Offshore Systems	2021	0	12
7.5-02-07-03.17	G	Uncertainty Analysis for Model Testing of Offshore Wind Turbines	2021	0	23
7.5-02-07-03.18	G	Practical guidelines for numerical modelling of wave energy converters	2021	0	17

 ITTC INTERNATIONAL TOWING TANK CONFERENCE	ITTC – Recommended Procedures and Guidelines		0.0 Page 9 of 11	
	REGISTER		Effective Date 2022	Revision 10

Section		Contents	Effective Date	Revision	Pages
7.5-02-07-04		Stability			
7.5-02-07-04.1	P	Model Tests on Intact Stability	2008	2	10
7.5-02-07-04.2	P	Model Tests on Damage Stability in Waves	2017	3	13
7.5-02-07-04.3	G	Predicting the Occurrence and Magnitude of Parametric Rolling	2021	3	23
7.5-02-07-04.4	P	Simulation of Capsize Behaviour of Damaged Ships in Irregular Beam Seas	2021	3	17
7.5-02-07-04.5	P	Estimation of Roll Damping	2021	1	45
7.5-02-07-04.6	P	Extrapolation for Direct Stability Assessment in Waves	2021	0	14
7.5-02-07-04.7	P	Inclining Tests	2021	0	11
7.5-03		CFD			
7.5-03-01		General			
7.5-03-01-01	P	Uncertainty Analysis in CFD, Verification and Validation Methodology and Procedures	2021	4	15
7.5-03-01-02	G	Quality Assurance in Ship CFD Application	2021	2	5
7.5-03-01-03	P	(CFD User's Guide) Deleted	2021		
7.5-03-01-04	P	(CFD Verification) Deleted	2021		
7.5-03-02		Resistance and Flow			
7.5-03-02-01	P	Uncertainty Analysis in CFD, Examples for Resistance and Flow	2017	1	13
7.5-03-02-02	P	Benchmark Database for CFD Validation for Resistance and Propulsion	2021	2	9
7.5-03-02-03	G	Practical Guidelines for Ship CFD Applications	2014	1	16
7.5-03-02-04	G	Practical Guidelines for Ship Resistance CFD	2021	1	8
7.5-03-02-05	G	Use of CFD methods to calculate wind resistance coefficient	2021	0	7

 ITTC INTERNATIONAL TOWING TANK CONFERENCE	ITTC – Recommended Procedures and Guidelines		0.0 Page 10 of 11	
	REGISTER		Effective Date 2022	Revision 10

Section		Contents	Effective Date	Revision	Pages
7.5-03-03		Propulsion			
7.5-03-03-01	G	Practical Guidelines for Ship Self-propulsion CFD	2014	0	8
7.5-03-03-02	G	Practical Guidelines for RANS Calculation of Nominal Wakes	2014	0	9
7.5-03-04		Manoeuvrability			
7.5-03-04-01	G	Guideline on Use of RANS Tools for Manoeuvring Prediction	2021	2	17
7.5-03-04-02	G	Validation and Verification of RANS Solutions in the Prediction of Manoeuvring Capabilities	2021	2	14
7.5-04		Full Scale Measurements			
7.5-04-01		Speed and Power Trials			
7.5-04-01-01.1	P	Preparation, Conduct and Analysis of Speed/Power Trials	2022	7	77
7.5-04-01-01.2	P	(Analysis of Speed/Power Trial Data) Merged into 7.5-04-01-01.1	2017		
7.5-04-02		Manoeuvrability			
7.5-04-02-01	P	Full Scale Manoeuvring Trials Procedure	2021	3	18
7.5-04-02-02	G	UV Full Scale Manoeuvring Trials	2021	0	15
7.5-04-03		Ice Testing			
7.5-04-03-01	PC	Ship Trials in Ice	1999	0	9
7.5-04-04		Hydrodynamic Noise			
7.5-04-04-01	G	Underwater Noise from Ships, Full Scale Measurements	2021	2	27
7.5-04-05		Model-ship correlation			
7.5-04-05-01	G	Guideline on the determination of model-ship correlation factors	2021	1	12

 ITTC INTERNATIONAL TOWING TANK CONFERENCE	ITTC – Recommended Procedures and Guidelines	0.0 Page 11 of 11	
	REGISTER	Effective Date 2022	Revision 10

Section		Contents	Effective Date	Revision	Pages
7.6		CONTROL OF INSPECTION, MEASURING AND TEST EQUIPMENT			
7.6-01		Measuring Equipment			
7.6-01-01	P	Control of Inspection, Measuring and Test Equipment	1999	00	20
7.6-02		Sample Work Instructions			
7.6-02-01	W	(Calibration of Steel Rulers) Deleted	2021		
7.6-02-02	W	Calibration of Vernier Callipers	2002	0	13
7.6-02-03	W	Calibration of Height Callipers	2002	0	12
7.6-02-04	W	Calibration of Micrometres	2002	0	15
7.6-02-05	W	Calibration of Dial Gauges	2002	0	15
7.6-02-06	W	Calibration of Chronometers with Pointer Indication	2002	0	9
7.6-02-07	W	Calibration of Chronometers with Digital Indication	2002	0	14
7.6-02-08	W	Calibration of Weights	2021	2	5
7.6-02-09	W	Calibration of a Load Cells	2021	1	9
7.6-02-10	W	Calibration of Non Self Indicating Weighing Instruments	2002	0	14
7.6-02-11	W	Calibration of Liquid-in-Glass Thermometers	2002	0	13
7.6-02-12	W	Calibration of Bourdon Tube Pressure Gauges, Pressure-Vacuum and Vacuum Gauges for General Use	2002	0	13

- P** signifies Procedure
G signifies Guideline
C signifies Concern, needs updating!
W signifies Work Instruction