CONTENTS

PRE	FACE	673 730	9	
	PTER	R 1. NCEPTS AND DESCRIPTIONS OF DAMAGE CONTROL		
		HIPS	11	
	1.1.	Concepts and Descriptions of Damage Control in Warships	11	
	1.2.	Objectives of the Ship's Vitality Preservation	13	
	1.3.	Elements of Actions Aimed to Preserve Ship's Vitality	13	
	1.4.	Elements of Damage Control in Warships	14	
	PTER	######################################	16	
SHI		AMAGE CONTROL ORGANIZATION		
	2.1.	Watch, Quarter and Daily Stations Bills		
	2.2.			
		2.2.1. Repair Parties and their Assignments		
		2.2.2. Drain Parties and their Assignments	22	
	2.3.	Ship's Damage Control Organization Charts		
	2.4.	. Directing Damage Control Action		
	2.5.	Methods of Training in Damage Control on Ships	28	
CHA	PTEF	3.2 add agrants are tractally located by at Water Control State and the State of th		
		AL SOLUTIONS TO ENSURE THE SHIP'S VITALITY	29	
	3.1.	Construction Solutions to Ensure the Ship's Vitality	29	
		3.1.1. Shape and Construction of the Shell Plating		
		3.1.2. Watertight Bulkheads and Divisions	34	
		3.1.3. Watertight Compartments		
		3.1.4. Watertight Decks	39	
		3.1.5. Openings in a Watertight Shell Plating	40	

		3.1.6.	Arrangement of Machinery and Other Technical Equipment on a Ship	43	
		3.1.7.	Distribution of Ship Stores, Fuels and Lubricants		
CIII	DODDE	re Inter			
	APTEF TER F		IG ON THE POLISH NAVY SHIPS	47	
			Concepts of Subdivision (Unsinkability)		
			es of Water Spreading throughout the Ship		
	4.3.		cteristics of Damage to Surface Ships and Submarines		
		4.3.1.	Categories of Damage to Compartments		
		4.3.2.	Location of Damage and Investigation of Flooded Compartments		
		4.3.3.	All and department of the state		
		4.3.4.	Rules for Water Fighting on Board a Ship		
	4.4.		al Cases of the Damaged Ship's Stability and its Righting		
		.5. Attitude and Stability of the Ship after Flooding of Compartments			
		4.5.1.			
		4.5.2.	Calculation of the Ship's Attitude and its Initial Stability Using the Constant – Displacement Method	68	
	4.6.		mination of the Attitude and Estimation of the Ship's Stability		
	4.7.	. Portable Equipment in Water Control			
		4.7.1.	Rules for the Use of Equipment to Toughen Bulkheads and to Seal, Dewater and Drain Water out of the Compartments		
	4.8.	Install	ations to Fight Water on Board	82	
	4.9.	.9. Preparing the Crew to Fight Water on Ships		88	
			Duties of the Crew at Water Control Stations during the Ship's Station Port, Shipyard and while at Sea	у	
		4.9.2	Practical Training in Water Fighting in the Emergency Damage Control Chamber	95	
СНА	PTER	5.			
FIRI			ON THE POLISH NAVY SHIPS		
	5.1.	Fire H	azards to Ships		
		5.1.1.	Factors of Fire Hazards to Naval Ships	98	
		5.1.2.	Fire Hazards to Combatant Ships	99	

	5.1.3.	Fire Hazards to Combatant Ships Underway	99
	5.1.4.	Fire Hazards to a Combatant Ship during a Stay in Harbour	100
	5.1.5.	Fire Hazards to Combatant Ships during a Stay in Shipyard	100
5.2.	Basics	of Fire Physics and Chemistry	101
	5.2.1.	Kinds of Combustion	101
	5.2.2.	Temperature during Combustion	102
	5.2.3.	Thermal Interaction	103
	5.2.4.	Explosive Limits	
5.3.	Causes	s and Properties of Fires on Board a Ship	105
	5.3.1.	Human-Caused Fires	105
	5.3.2.	Defects of Installations and Machinery	106
	5.3.3.	Static Electricity	106
	5.3.4.	Other Hazards	107
5.4.	Exting	uishing Agents Used on Board Naval Ships	107
	5.4.1.	Division of Extinguishing Agents	108
	5.4.2.	Characteristics and Properties of Extinguishing Agents	108
	5.4.3.	Agents to Extinguish Extremely Fire-Hazardous Materials	112
5.5.	Portab	ole Firefighting Equipment on Board Naval Ships	118
	5.5.1.	Extinguishers, Small Transportable Extinguishers, Fire Blankets, Internal Hydrants, Hose Fittings, Foam Fittings	110
	5.5.2.	Breaking-in Tools	
	5.5.3.	Emergency and Rescue Equipment	
F 6		lo. Z. Signs referring to blocking princtures and tears	
5.6.	5.6.1.	uishing Systems on Naval Ships	
	Esure F	Fire Water Main Installations	
	5.6.2.	Steam Fire Extinguishing Installations	
	5.6.3.	Gas Fire Extinguishing Installations	
	5.6.4.	Foam Fire Extinguishing Installations	
	5.6.5.	Halon Fire Extinguishing Installations	
	5.6.6.	Dry Powder Fire Extinguishing Installations	
5.7.		etection and Fire Alarm Systems	
5.8.		ural Fire Protection	
5.9.	Firefig	hting Methods on Board Naval Ships	154
	5.9.1.	Extinguishing Open Deck and Superstructure Fires	155

		5.9.2.	Fire Extinguishing in Accommodation Areas and Service Spaces.	155
		5.9.3.	Extinguishing Fires in Engine Rooms	155
		5.9.4.	Extinguishing Fires in Ammunition Chambers	156
		5.9.5.	Extinguishing Fires in Fuel Tanks	156
		5.9.6.	Extinguishing Fires of Fuel Spilled on the Surface of the Sea Water	157
	5.10.	Ship's l	Fire Protection Organization	157
			General	
		5.10.2.	Fire Protection Documentation	158
		5.10.3.	Responsibilities of Persons in Charge	161
	5.11.	Fire Pr	evention	163
		5.11.1.	Storage of Flammable Liquids	163
		5.11.2.	Ammunition Storage	163
		5.11.3.	Gas Cylinder Storage	163
		5.11.4.	Battery Banks	164
		5.11.5.	Operation of Electrical Equipment	164
		5.11.6.	Passageways	164
		5.11.7.	Berthing Requirements	165
	5.12	Officer	rs' Responsibilities during Ship's Repair / Overhaul	165
	5.13		cal Firefighting Training at "KUR" Firefighting	166
CHA	PTER	6. REPAIR	R TO TECHNICAL EQUIPMENT	168
Ibi	6.1.	Conce	pt of the Ship's Technical Equipment	168
			se of Preserving Vitality of the Ship's Technical Equipment	
	6.3.		ge to the Ship's Technical Equipment	
	0.5.	6.3.1.	Damage and Repair of Drainage Installations	
		6.3.2	Repair of Failures of Electric Power Network and Electric Machines	
	6.4.		sis of Accidents and Technical Breakdowns on Board Ships of the Republic of Poland	180
	6.5.	Precau	utionary Measures and Prevention of Damage on Board Ships	187

CHA	DT	ED	7
CHA	PI	CR	/.

UN	DERW	ATER V	WORK	189
	7.1.	General Information on Diving		
		7.1.1.	Standard Systems for Shallow Water (Short-Time) Diving	192
		7.1.2.	Standard Diving Systems for Deep Water Diving	195
	7.2.	Organizational Structure of Lightweight Damage Control		
		Diver	Teams	197
		7.2.1.	Organization of Underwater Work on Board a Ship	198
		7.2.2.	Conducting Underwater Work on Board Ships	199
		7.2.3.	Emergency Underwater Work	203
	7.3.		the Diving Equipment and Underwater Techniques cue Operations on Board Ships	
		7.3.1.	Underwater Search Work	207
		7.3.2.	Recovery Work	211
		7.3.3.	Rescue of Submarines' Crews	212
	7.4.	-	g Equipment and Underwater Techniques on Board e Ships of the Polish Navy	217
BII	BLIOGI	RAPHY	pidemar Mironnuk D.Sc.lang /	223
EN	cLosu	RES	, 5 & 6 - Systand-Woobel, U.Sc. Line	227
	Encl		No. 1. Signs referring to damage control appliances and equipmenting facilities	
	Encl	osure N	No. 2. Signs referring to blocking punctures and tears	230
	Encl	osure N	No. 3. Equipment and tools used in damage control	231
	Encl	osure N	No. 4. Additional signs	233
	Encl	No. 5. Signs of fire alarm signalling devices and fixed firefighting inces	234	
	Encl		No. 6. Signs for firefighting appliances	
	Enclosure No. 7. Signs for areas and materials of specific fire hazards			
Enclosure No. 8. Additional symbols				
			No. 9. Symbols of evacuation	
	Litte	- Julie I	· · · · · · · · · · · · · · · · · · ·	250