## **CONTENTS**

1. INTRODUCTION	9
2. BASIC STRUCTURES OF GAS BOILERS WITH FINNED TUBES	17
3. FINNED TUBES	33
4. PRODUCTION TECHNOLOGIES OF FINNED TUBES.	55
4.1. Mechanical crimping of the tubes.	55
4.2. Production technology of finned tubes in the process of plastic processing	60
4.3. Finned tubes brazing technology.	67
4.4. Finned tubes welding technology.	70
4.5. Finned tubes arc welding technology.	74
4.5.1. Finned tubes welding technology with MAG method	75
4.6. Finned tubes laser welding technology	89
4.6.1. Modern lasers used as heat sources in welding processes	90
4.6.2. Selection of laser type for finned tubes welding	.100
4.6.3. Simulation of the process of finned tubes welding - temperature field, stress field and deformation during welding	.123
4.6.4. Automated process of laser welding of finned tubes	.130
5. QUALITY REQUIREMENTS AND ACCEPTANCE REGULATIONS	
FOR FINNED TUBES	145
6. PROPERTIES OF WELDED FINNED TUBES	157
6.1. Mechanical properties.	157
6.2. Corrosion resistance of finned tubes	162
7. ECONOMIC ASPECTS OF MANUFACTURING FINNED TUBES	175
8. FINNED TUBES - DIRECTIONS OF DEVELOPMENT	
Abstract	193