

# **CONTENTS**

Chapter 1. Types of Earthquakes. Causes of Their Occurrence.....	5
1.1. Types of Earthquakes .....	5
1.2. Seismic Belts of the Earth.....	16
1.3. Zoning of the Territory of Ukraine.....	19
1.4. Monitoring of Seismic Activity .....	32
Chapter 2. Methods of Calculation on Seismic Action .....	39
2.1. Rationing of Earthquake Intensity .....	39
2.2. Static Theory.....	53
2.2. Spectral Calculation Method.....	59
2.3. Direct Dynamic Method .....	62
Chapter 3. Earthquake Impact on Buildings and Structures.....	64
3.1. . Construction Materials and the Influence of Seismic Vibrations on Them .....	64
3.2. Basic Principles of Design of Earthquake-Resistant Buildings.....	67
3.3. Wooden Earthquake-Proof Buildings.....	83
3.4. Metal buildings .....	91
3.5. Reinforced Concrete Buildings.....	93
3.6. Masonry Buildings .....	138
3.7. Transport Constructions .....	165
3.8. Foundations of Buildings.....	171
Chapter 4. Example of Engineering Calculations for Seismic Loads .....	175
4.1. Determination of Forces Caused by Horizontal Seismic Loads in Columns of the Reinforced Concrete Frame .....	175
Bibliography.....	183