
CONTENTS

1. METALLURGICAL ASPECTS	1
Introduction	1
Steelmaking Aspects	1
Types of Steel	2
Steel Chemistry	3
Common Elements	3
Incidental Elements	3
Grain Refining Additions	3
Chemical Requirements	3
Heat Analysis	4
Product Analysis	4
Analytical Procedure	7
Sampling for Product Analysis	7
2. MANUFACTURING METHODS AND PRACTICES	9
Structural Shapes	9
Rolling	9
Finishing	11
Product Definitions	11
Sheet Piling	28
Identification	28
Shapes and Sheet Piling Surfaces	28
Inspection and Testing	29
Limitations of Inspection, Testing and Certification	29
Packaging, Marking and Loading	29
3. QUALITY DESCRIPTIONS	31
Storage of Structural Shapes	31
4. SPECIFICATIONS AND TESTS	33
Mechanical Testing Requirements	33
Charpy V-Notch Impact Testing	33
Other Tests and Requirements	34
5. TOLERANCES	37
6. STEEL SHEET PILING	55
Description	55
Types of Steel Sheet Piling	55
Applications	56
Manufacturing Practices	56
Tolerances	56
APPENDIX A - GRAIN SIZE	59
APPENDIX B - HEAVY SECTIONS USED AS TENSION MEMBERS	61
Heavy Section Splicing	61
Beam Copes and Weld Access Holes	61
Thermal Cutting	61
APPENDIX C - ATMOSPHERIC CORROSION	63
INDEX	67