

Contents

1	Introduction	1
2	The formation of bainite	3
2.1	Preliminaries on bainite	3
2.2	Morphologies and diffusion processes	4
3	Generalized stresses and the phase field method	7
3.1	Preliminaries on the phase field method	7
3.2	The idea of generalized stresses	9
4	Objectives	11
	Paper A	13
	Paper B	41
	Paper C	73
	Paper D	109
5	Summary of the papers	147
6	Summary	149
7	Outlook	151
	Bibliography	153