

# contents

	forword	5
<b>1</b>	<b>The Beginnings of the Application of Inorganic Binder Systems</b>	<b>9</b>
<b>2</b>	<b>The Development and State of the Application up to the Year 2000</b>	<b>11</b>
<b>3</b>	<b>Overview of Currently Available Inorganic Binder Systems</b>	<b>14</b>
3.1	Alkali silicate binder (water glass binder)	14
3.2	Silica sol for investment casting	31
3.3	Cement as a binder system	32
3.4	Geopolymer binder	36
3.5	Salt binder systems	37
3.6	Gypsum as binder	39
<b>4</b>	<b>Classification of Moulding Processes with Inorganic Binder Systems</b>	<b>42</b>
4.1	Hardening by gasification process	43
4.1.1	Water glass CO <sub>2</sub> process	43
4.1.2	Water glass warm air process	61
4.1.3	Warm air drying in water glass powder systems	65
4.2	Cold self-curing processes	69
4.2.1	Cement moulding process	72
4.2.2	Water glass ester process	89
4.2.3	Geopolymer process	108
4.3	Warm or hot curing processes	114
4.3.1	Processes with tempered mould tools	114

4.3.2	Microwave drying method	121
4.3.3	Methods with salt binder systems	132
4.3.4	Investment casting with silica sol binders	137
<b>5</b>	<b>The Use of Alternative Moulding Materials</b>	<b>146</b>
<b>6</b>	<b>Reclamation of Used Sands</b>	<b>163</b>
<b>7</b>	<b>The Influence of Inorganic Binder on Clay Bonded Circulation Moulding Materials</b>	<b>202</b>
	Index	211