## 666 RYA 2nd ed.

## CONTENTS

1.	Introduction					
2.	Manufacturing Processes					
	2.1	Body F	Preparation	5		
		Metho	ds of Mixing	5		
		2.1.1	Dry Mixing	5		
		2.1.2	Plastic Mixing	6		
		2.1.3	Slip Mixing	7		
		2.1.4	Direct Preparation of Casting Slip	9		
		2.1.5	Spray Drying	9		
	2.2	Making	10			
		2.2.1	Slip Casting	10		
		2.2.2	Plastic Making	12		
		2.2.3	Other Methods of Making	15		
	2.3	Firing	and Finishing	19		
3.	Prop	21				
	3.1	Plastic	ity	21		
	3.2	Dry-sti	rength	24		
	3.3	Drying	, Shrinkage	25		
	3.4	Suspen	pension Properties and Slip Casting			
4.	Read	actions Occurring on Firing				
5.	Ceramic Raw Materials					
	5.1	Clays		42		
		5.1.1	Formation	42		
		5.1.2	Residual and Sedimentary Clays	43		
		5.1.3	The Structure of the Kaolins	43		
		5.1.4	The Kaolinitic Clays	50		
		5.1.5	The Structure of the Montmorillonites	52		
		5.1.6	The Micas	55		
		5.1.7	The Illites or Hydrous Micas	57		
		5.1.8	The Chlorites	57		
		5.1.9	The Vermiculite	57		
		5.1.10	Isomorphous Substitution in the Clay Minerals	58		

	5.1.11	Cation Exchange	60	
	5.1.12	The Clay-Water System	63	
	5.1.13	Practical Uses of the Cation Exchange Properties Clays	72	
5.2	Silica		73	
5.3	Fluxes			
	5.3.1	Felspars	80	
	5.3.2	Cornish Stone	81	
	5.3.3	Nepheline Syenite	81	
	5.3.4	Bone Ash	81	
5.4	Refrac	ctory Materials	82	
	5.4.1	Alumino-silicate Refractories	83	
	5.4.2	Oxide Refractories	91	
	5.4.3	Other Refractory Materials	95	
5.5	Materials Used in Low Expansion Bodies, Glasses and Glazes			
5.6	Plaste	r of Paris	99	
5.7	materi	als Used in Ceramic Glazes	100	
5.8	Colou	ring Materials Used in Decoration	106	
5.9	Materials Used in Electrical Applications			

Index