

## WHAT IS A GRINDING WHEEL?

A grinding wheel is a precision tool with thousands of cutting edges. It is built up of abrasive grit that is bonded together with a bonding agent and which is held apart by pores. The abrasive grit makes up the cutting element and the pores transport away the chips and facilitate the flow of coolant.

When the grinding wheel has reached its working speed and meets the work piece, the abrasive grit removes the material in the form of chips.

The abrasive grit wears down and becomes dull under the effect of the grinding pressure. This increases the friction and generates heat, which builds up pressure.

This pressure results in either the abrasive grit breaking down and releasing new cutting edges or the bonding agent fails so that the abrasive grit loosens and a completely new abrasive grit is released.

Grinding wheels periodically need to be sharpened.

By using abrasive grit and bonding agent with different characteristics and by designing grinding wheels in different ways it is possible to produce a very broad spectrum of different characteristics for the completed product.

## ABRASIVE GRIT

Modern synthetic abrasive grit gives controlled characteristics of both shape as the degradation pattern. This means that grinding wheels with constant cutting properties can be produced.

Norton supplies a wide range of grinding wheels with different abrasive grit to produce different characteristics, which is necessary to offer effective grinding in all grinding operations.

## GRIT SIZE

The grit size is decisive in order to produce the required surface finish or degree of removal. The grit size is represented by a number which becomes higher the finer the grit. For example, grit size 10 has abrasive grit which is approx 2.0 mm size and grit size 60 approx 0.25 mm.

All Norton's grinding wheels follow the European standard for grit size drawn up by FEPA.

The ideal abrasive grit has the capacity to remain sharp as long as possible without the cutting edges becoming dull, and when this nevertheless occurs is broken down so that new sharp edges appear.

## SPECIFICATION

ABRASIVE GRIT			GRIT SIZE			HARDNESS			STRUCTURE		BONDING AGENT
ALUMINIUM OXIDE	SILICON CARBIDE	CERAMIC ALU-OXIDE (SG/TG/ES)	COARSE	MEDIUM	FINE	SOFT	MEDIUM	HARD	DENSE	OPEN	
A	37C	SGB	12	30	80	E	I	Q	5	10	VS
19A	39C	3SG	16	36	90	F	J	R		11	VXP
25A		5SG	20	46	100	G	K	S		12	VXPM
38A		1TGP	24	54	120	H	L	T			VTECH
40A				60			M				
57A				70			N				
86A							O				
IPA				60				EH		17	VTX
								XH		20	
		ES5		60	80		J	L			VX
							K				