

- 1) Introduction
- 2) Contents
- 3) Pictograms
- 4) Symbols & designation of Wheel
- 5) Metal Applications
- 6) Stainless Steel Applications
- 7) Aluminium Applications
- 8) Stone Applications
- 9) Cast Iron Applications
- 10) Storage Instructions
- 11) Do's & Don'ts



Introduction

ATI provides the whole range of cutting-off and grinding wheels for both portable and fixed machines. Our Swords brand provides superior performance in the most stringent working environment through a longer life wheel that gives the shortest cutting cycles with high stock removal and at the lowest cost possible.

Being supported by the Italian manufacturing technology and recipes; ATI have permitted a selective optimization for diverse application needs. Each design meets all practical requirements, allowing the user to find the ideal cut-off wheel for any type of work.

ATI Vision: "Being a hub for the international abrasives trading, operating from the KSA"

ATI Mission: "Produce and develop abrasive products that provide effective and efficient solutions for various fields and levels of industrial and construction applications, having the flexibility to customize our products and logistic services. ATI will provide abrasive products for local and international customers along with logistic services for those who export their brands internationally"

Values: "ATI is committed for Professionalism, Quality and Transparency in dealing with our valuable customers"

Certificates and Approvals

- ARAMCO approved supplier- vendor no. 10047173
- Quality Management System (ISO 9001 : 2015)



CORRECT STORAGE

Please store in dry and well-ventilated premises without major temperature changes (temperatures between 10°C and 30°C and max. 70 % relative humidity). This will help preserve the physical properties of reinforced resin bonded grinding wheels for up to three years, up to two years for non-reinforced ones. The storage premises should be as close to the place of use as possible in order to avoid mechanical damage to the wheels during transport, as well as moisture condensation while in transit on colder days.

Do's & Don'ts

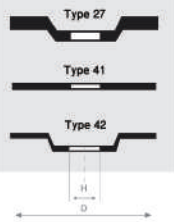
Never

- Permit untrained people to handle, store, mount or use abrasives
- Round or remove a wheel until the machine has been isolated from its power source
- Round a wheel that cannot be identified or one which does not bear the correct marking
- Round a wheel on a machine which does not display its spindle speed
- Round a wheel which is beyond its marked expiry date or recommended shelf life
- Round a wheel that has been dropped, damaged or incorrectly stored
- Apply force to fit the wheel on the mounting device or alter the bore size or allow the wheel to overheat
- Tighten flanges with excessive force or use hammer or mallets
- Use damaged, distorted or dirty flanges and fastening screws
- Use a machine which is not in good condition or one with a damaged guard
- Turn on the machine until the wheel guard has been re-fitted, secured and adjusted correctly
- Stand in the line of the grinding wheel when starting the motor after fitting or re-fitting a wheel
- Start the wheel in contact with the workpiece or any other object
- Round a wheel on a machine running at a speed higher than the maximum operating speed marked on the wheel
- Work from a ladder or in a position where you do not have full control of the machine
- Impact the work onto the wheel or the wheel onto the work
- Grind on the side of a wheel unless it is specially designed for this application
- Apply side pressure by trying to cut curves or by grinding surfaces with cutting-off wheels
- Allow the wheel to bounce or be trapped or pinched in the cut
- Use type 27 depressed centre grinding wheels at a steep angle or try to cut with them
- Force the wheel with any device other than that recommended
- Press against the wheel surface to stop it or put down a machine until the wheel has stopped running
- Blow the wheel down to the mounting flanges
- Allow the gap between the wheel and workrest to exceed 3 mm
- Allow coolant to run on a stationary wheel or leave the wheel running on an unattended machine

Always

- Observe the safety recommendations of the machine and wheel manufacturer
- Keep the working area well lit, clean, tidy and free from obstructions
- Avoid slippery and uneven floors and do not work on ice or snow
- Ensure other workers in the vicinity and passersby are protected from sparks and debris
- Warn others when handling abrasive wheels – they can easily be damaged
- Store wheels in dry and frost-free conditions avoiding wide variations in temperature and the risk of damage
- Visually check the wheel for damage or defects and conduct a ring test before mounting
- Check that the wheel is the correct specification for the application and that the markings are intact and legible
- Use the correct tools when mounting or removing a wheel
- Ensure mounting flanges are in matched pairs, clean, free from burrs and undistorted
- Use Mottos to prevent wheel slippage where required
- Make sure that workrests and workpiece clamping devices are secure and correctly positioned
- Ensure guards are in position and correctly adjusted so that they do not foul the wheel
- Rotate the wheel manually to ensure that it runs true and freely before turning on the power
- Wear suitable protective clothing
- Run the wheel for at least 30 seconds at operating speed after mounting or re-mounting. Stand out of the line of the wheel when turning on the machine
- Dress/bond grinding wheels regularly to keep the cutting surface in good condition
- Allow the wheel to come to rest naturally after turning off the machine
- Ensure the workpiece is properly supported or clamped so that it cannot move during grinding or cutting
- Spin out residual coolant from the wheel before turning off the machine
- Report wheel breakages, keeping hold of all of the debris for examination
- Ensure machine spindle speed is checked periodically using a tachometer
- Ensure that damaged or defective wheels and worn-out wheels are destroyed to prevent them from being used
- Ensure that the wheel is removed before transporting or storing portable machines

INOX / Stainless Steel THIN Cutting Wheels



- Fast, cool cutting, longest service life.
- Premium Aluminum Oxide grain
- Fe, s, cl $\leq 0.1\%$

Usage	Item #	Size in inch	Dimensions D x T x B	Formula	Max RPM	Pieces / Carton	Machine type
Cutting	121010	4	100x1.0x16	A 46TBF INOX	15300	200	
	121012	4	100x1.2x16	A 46TBF INOX	15300	200	
	121016	4	100x1.6x16	A 46TBF INOX	15300	200	
	121110	4.5	115x1.0x22.23	A 46TBF INOX	13300	200	
	121112	4.5	115x1.2x22.23	A 46TBF INOX	13300	200	
	121116	4.5	115x1.6x22.23	A 46TBF INOX	13300	200	
	121210	5	125x1.0x22.23	A 46TBF INOX	12250	100	
	121212	5	125x1.2x22.23	A 46TBF INOX	12250	100	
	121216	5	125x1.6x22.23	A 46TBF INOX	12250	100	
	121816	7	180x1.6x22.23	A 46TBF INOX	8500	90	
	122319	9	230x1.9x22.23	A 46TBF INOX	6650	50	

Pictograms

Applications (MATERIALS)

Metal



Stainless steel



Aluminium



Stone



Cast Iron



Safety Symbols



Not Suitable for Hand-Held Machines



Not Suitable for grinding



Read the Instructions



wear dust mask



Wear ear protection



Wear safety protection



Wear safety gloves



Do not use if damaged

Symbols & Designations of the Wheel

Information & Description of the disc

- European Safety standards EN: 12413
- * **sworDS** * Our Premium trusted brand
- Usage
- Disc dimension
- Product barcode
- Safety Instructions
- Specifications & max rotation speed
- Application
- Grade
- Validity & Batch Number

Disc Anatomy

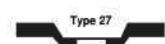
- Bore ring
- Label
- Reinforcement
- Abrasive Grain
- Reinforcement
- (Glass fabric with paper)



Speed Conversion Following En 12413

Wheel diameter (mm)	Maximum peripheral operating speed in 80 m/s
100	15300
115	13300
125	12250
180	8500
230	6650
300	5100
350	4400
400	3850

Shape Specification System



*All grinding wheels from 100 mm To 230 mm diameter

Application: Grinding



*All universal thin cutting wheels from 100 mm to 230 mm
*All cutting wheels from 300mm- 400mm diameter

Application: Cutting- off



*All cutting wheels other than Universal thin wheels from 100mm-230mm diameter

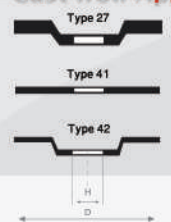
Application: Cutting- off

Steel, Cast Steel	Non-hardened, non-heat treated steels up to 1.200 N/mm² (< 38 HRC)	Construction steels, carbon steels, tool steels,	non-alloyed steels, case-hardened steels, cast steel
	Hardened, heat-treated steels exceeding 1.200 N/mm² (> 38 HRC)	Tool steels, tempering steels,	cast steels
Stainless steel (INOX)	Austenitic and ferritic stainless steels		
Non-ferrous metals	Soft non-ferrous metals	Aluminium alloys, brass, Bronze	copper, zinc
	Hard non-ferrous metals		

Tool drives	Wheel/disc diameter (mm)	Ø 100	Ø 115	Ø 125	Ø 178	Ø 230
Performance classes	Type of machine	Power in watts				
Air-powered/turbine, high-frequency	Air-powered, speed controlled	< 1.000	< 800	< 1.000	< 1.900	< 2.200
	High-frequency (300 Hz)	-	< 1.700	< 1.700	< 3.700	< 3.700
High power	Air-powered	-	< 1.400	< 1.500	< 2.500	< 2.800
	Electrical, speed controlled	< 700	< 1.000	< 1.200	< 2.200	< 2.500
Low power	Air-powered	< 400	< 600	< 800	< 1.500	< 1.800
	Electrical	< 500	< 700	< 900	< 1.800	< 2.000

Should the machine watts output be in doubt we recommend that you focus on output level "Low Power"

Cast Iron Applications



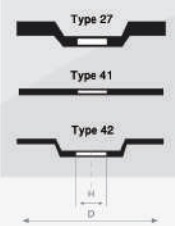
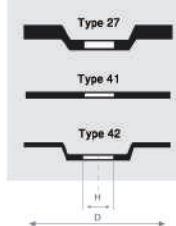
Ferrous Casting

Usage	Item #	Size In inch	Dimensions D x T x B	Formula	Max RPM	Pieces / Carton	Machine type
Cutting	TYPE 42	151030	4	100x3x16	AC 36 P BF	15300	100
		151132	4.5	115x3.2x22.23	AC 30 P BF	13300	100
		151232	5	125x3.2x22.23	AC 30 P BF	12250	50
		151832	7	180x3.2x22.23	AC 24 P BF	8500	50
		152332	9	230x3.2x22.23	AC 24 P BF	6650	25
Grinding	TYPE 27	251064	4	100x6.4x16	AC 30 P BF	15300	50
		251164	4.5	115x6.4x22.23	AC 24 P BF	13300	50
		251264	5	125x6.4x22.23	AC 24 P BF	12250	20
		251864	7	180x6.4x22.23	AC 24 P BF	8500	25
		252364	9	230x6.4x22.23	AC 24 P BF	6650	10



Stone Applications

Metal Applications



- ☞ Concrete
- ☞ Roof tiles
- ☞ Marble
- ☞ Asphalt
- ☞ Natural stone
- ☞ Artificial stone

- ☞ Universal metal
- ☞ Structural Steel
- ☞ Construction Steel (high tensile)

Usage	Item #	Size In inch	Dimensions D x T x B	Formula	Max RPM	Pieces / Carton	Machine type	Usage	Item #	Size In inch	Dimensions D x T x B	Formula	Max RPM	Pieces / Carton	Machine type
Cutting	141030	4	100x3x16	C36 R BF	15300	100		Cutting	111030	4	100x3x16	A36 Q BF	15300	100	
	141132	4.5	115x3.2x22.23	C36 R BF	13300	100			111132	4.5	115x3.2x22.23	A30 Q BF	13300	100	
	141232	5	125x3.2x22.23	C36 R BF	12250	50			111232	5	125x3.2x22.23	A24 Q BF	12250	50	
	141832	7	180x3.2x22.23	C30 R BF	8500	50			111832	7	180x3.2x22.23	A24 Q BF	8500	50	
Grinding	142332	9	230x3.2x22.23	C30 R BF	6650	25		Grinding	112332	9	230x3.2x22.23	A24 Q BF	6650	25	
	241064	4	100x6.4x16	C30 R BF	15300	50			113030	12	300x3.0x25.4	A30 Q BF	5100	25	
	241164	4.5	115x6.4x22.23	C30 R BF	13300	50			113032	12	300x3.2x25.4	A30 Q BF	5100	25	
	241264	5	125x6.4x22.23	C30 R BF	12250	20			113038	12	300x3.8x25.4	A24 Q BF	5100	25	
	241864	7	180x6.4x22.23	C24 R BF	8500	25			113530	14	350x3.0x25.4	A30 Q BF	4400	25	
	242364	9	230x6.4x22.23	C24 R BF	6650	10			113532	14	350x3.2x25.4	A30 Q BF	4400	25	
									113538	14	350x3.8x25.4	A24 Q BF	4400	25	
									114035	16	400x3.5x25.4	A24 Q BF	3850	20	
									211064	4	100x6.4x16	A30 P BF	15300	50	
									211164	4.5	115x6.4x22.23	A24 P BF	13300	50	
									211264	5	125x6.4x22.23	A24 P BF	12250	20	
									211864	7	180x6.4x22.23	A24 P BF	8500	25	
									212364	9	230x6.4x22.23	A24 P BF	6650	10	

Aluminium Applications



- Stainless Steel
- High Grade Steel
- Railway Tracks
- Fe, s, cl $\leq 0.1\%$

- Aluminium

Usage		Item #	Size In Inch	Dimensions D x T x B	Formula	Max RPM	Pieces / Carton	Machine type	Usage		Item #	Size In Inch	Dimensions D x T x B	Formula	Max RPM	Pieces / Carton	Machine type
Cutting	TYPE 42	121030	4	100x3x16	A36 Q BF INOX	15300	100		Cutting	TYPE 42	131030	4	100x3x16	CA36 Q BF	15300	100	
		121132	4.5	115x3.2x22.23	A30 Q BF INOX	13300	100				131132	4.5	115x3.2x22.23	CA30 Q BF	13300	100	
		121232	5	125x3.2x22.23	A24 Q BF INOX	12250	50				131232	5	125x3.2x22.23	CA24 Q BF	12250	50	
		121832	7	180x3.2x22.23	A24 Q BF INOX	8500	50				131832	7	180x3.2x22.23	CA24 Q BF	8500	50	
		122332	9	230x3.2x22.23	A24 Q BF INOX	6650	25				132332	9	230x3.2x22.23	CA24 Q BF	6650	25	
		123030	12	300x3.0x25.4	A30 Q BF INOX	5100	25				231064	4	100x6.4x16	CA30 P BF	15300	50	
	TYPE 41	123032	12	300x3.2x25.4	A30 Q BF INOX	5100	25		Grinding	TYPE 27	231164	4.5	115x6.4x22.23	CA24 P BF	13300	50	
		123038	12	300x3.8x25.4	A24 Q BF INOX	5100	25				231264	5	125x6.4x22.23	CA24 P BF	12250	20	
		123530	14	350x3.0x25.4	A30 Q BF INOX	4400	25				231864	7	180x6.4x22.23	CA24 P BF	8500	25	
		123532	14	350x3.2x25.4	A30 Q BF INOX	4400	25				232364	9	230x6.4x22.23	CA24 P BF	6650	10	
		123538	14	350x3.8x25.4	A24 Q BF INOX	4400	25										
		124035	16	400x3.5x25.4	A24 Q BF INOX	3850	20										
Grinding	TYPE 27	221064	4	100x6.4x16	A30 P BF INOX	15300	50										
		221164	4.5	115x6.4x22.23	A24 P BF INOX	13300	50										
		221264	5	125x6.4x22.23	A24 P BF INOX	12250	20										
		221864	7	180x6.4x22.23	A24 P BF INOX	8500	25										
		222364	9	230x6.4x22.23	A24 P BF INOX	6650	10										