



## Bear-Tex Competitive Cross Reference Charts

### Bear-Tex Hand Pads

NORTON (BEAR-TEX)	3M (SCOTCH-BRITE)	STANDARD ABRASIVES (BRITE-RITE)
456 Light Duty Cleaning Pad (White)	7445 (White)	Brite-Rite Cleaning
635 Clean & Finish Pad (Gray)	6448 (Brown)	
740 Heavy Duty Pad (Brown)	7440 (Tan)	Brite-Rite Heavy Duty
746 Metal Blend Pad (Gray)	7446 (Gray)	
747 General Purpose Pad (Maroon)	7447 (Maroon)	Brite-Rite General Purpose
748 Final Shine Pad (Gray)	7448 (Gray)	Brite-Rite Ultra-Fine S/C
777 Long Life Pad (Maroon)		
796 Scouring Pad (Green)	96 (Green)	Brite-Rite Industrial

### Bear-Tex Discs

NORTON (BEAR-TEX)	3M (SCOTCH-BRITE)	STANDARD ABRASIVES (BRITE-RITE)
Bear-Tex High Strength Discs	High Strength	High Strength
Rear-Tex Rapid Strip Discs	Clean & Strip	Britestrip

### Bear-Tex Surface Blending STE Discs and Belts

NORTON (BEAR-TEX)	3M (SCOTCH-BRITE)	STANDARD ABRASIVES (BRITE-RITE)
A/O Very Fine (Blue)	Surface Conditioning A VFN	Surface Conditioning FE Very Fine
A/O Medium (Maroon)	Surface Conditioning A MED	Surface Conditioning FE Maroon
A/O Coarse (Brown)	Surface Conditioning A CRS	Surface Conditioning FE Coarse
STE-CS (EXCRS, MED)	SE Surface Conditioning, SE Purple (CRS, MED)	Surface Conditioning FE, Rapid Cut (CRS, MED)
STE-VS, STE (CRS, MED, VFINE)	Surface Conditioning (CRS, MED, VFINE)	Surface Conditioning FE, Rapid Cut (CRS, MED, VFINE)

### Bear-Tex Flap Wheels and Interleaf Flap Wheels

NORTON (BEAR-TEX)	3M (SCOTCH-BRITE)	STANDARD ABRASIVES (BRITE-RITE)
Medium Density Flap Wheel	Finishing Flap Brush 5 Density	Buff & Blend Flap Brushes – Medium
Hard Density Flap Wheel	Finishing Flap Brush 7 Density	Buff & Blend Flap Brushes – Hard
Flap Wheel with 1/4 Spindle A/O VF	CFFB-S S FIN	
Flap Wheel with 1/4 Spindle A/O Med	CFFB-S A CRS	Mandrel Mounted Flap Brushes – A/O Med
Interleaf Flap Wheel with 1/4 Spindle A/O 60	COMBI-S A 80	Mandrel Mounted Combi-wheels – A/O 60
Interleaf Flap Wheel with 1/4 Spindle A/O 80	COMBI-S A P120	Mandrel Mounted Combi-wheels – A/O 80
Interleaf Flap Wheel with 1/4 Spindle A/O 120	COMBI-S A P180	Mandrel Mounted Combi-wheels – A/O 120

### Bear-Tex Convolute Wheels

NORTON (BEAR-TEX)	3M (SCOTCH-BRITE)	STANDARD ABRASIVES (BRITE-RITE)
Series 1000 Long Life 7 Density S/C	SST Deburring 7 Density S/C	Brite-Rite General Purpose 7 Density S/C
Series 1000 Long Life 7 Density A/O	Cut & Polish 7 Density A/O	Brite-Rite General Purpose 7 Density A/O
Series 1000 Long Life 8 Density S/C	SST Deburring 8 Density S/C	Brite-Rite Deburring 8 Density S/C
Series 1000 Long Life 8 Density A/O	Cut & Polish 8 Density A/O	Brite-Rite Deburring 8 Density A/O
Series 1000 Long Life 9 Density S/C F	EXL Deburring	Brite-Rite Deburring 9 Density
Series 4000	EXL, EX2 & EX3 Deburring	Brite-Rite HP
Metal Finishing 5AM	Metal Finishing 4AM & 5AM	Metal Finishing
Clean & Finish/Surface Finishing	Multi-Finishing	Brite-Rite Final Finishing

### Bear-Tex Unified Wheels

NORTON (BEAR-TEX)	3M (SCOTCH-BRITE)	STANDARD ABRASIVES (BRITE-RITE)
NEX	EXL, SST, Cut & Polish Unitized	Brite-Rite Unitized
General Duty Unified and Deburring Unified	General Purpose	

## Introduction

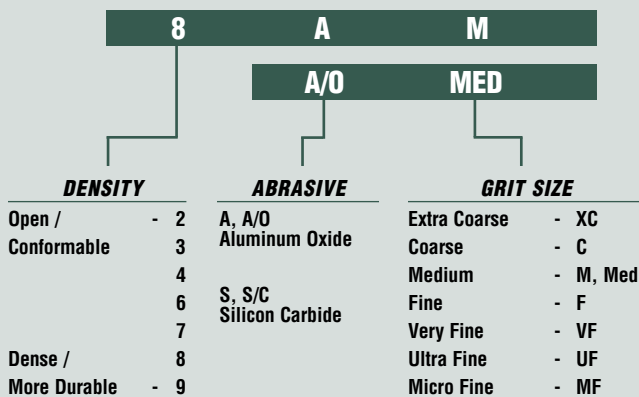
Most Bear-Tex products consist of a non-woven web of nylon fibers impregnated throughout with abrasive grain and bonded with synthetic resins. This design produces a cushioned, three-dimensional material that is extremely pliable and long lasting. The uniform dispersion of abrasive throughout the web provides a continuous supply of new grain as the old grain and fibers wear away during use.

Bear-Tex products, with their open mesh construction, are waterproof, washable, resilient, conformable, non-loading, non-conductive, non-metallic and non-rusting. Bear-Tex wheels are easily pre-formed to conform to special-shaped work pieces.

Since Bear-Tex products are designed for use where stock removal is not required, they begin where other abrasives leave off. The relatively non-aggressive nature of nylon and grit inherent in the Bear-Tex material makes it ideal as a finishing tool. While 60 to 80 grit are considered intermediate sizes in other products, they are considered coarse for Bear-Tex items.

Used wet or dry, Bear-Tex products offer the following advantages: controlled cut (with little or no stock removal) allows for increased productivity, consistent, uniform finish, ability to automate operations, minimized smearing and reduced operator training. These advantages make Bear-Tex products an excellent alternative to bristle brushes, set-up wheels, greaseless compounds and steel wool.

## Product Identification System



## Conventional Finishing Methods Versus Bear-Tex Products

The following chart outlines the advantages achievable when using Bear-Tex products as alternatives to other cleaning, blending, deburring and finishing methods. Bear-Tex products are listed in the sequence of normal preference for the application stated. However, because of the numerous variables, only testing can ensure selection of the most cost-effective product.

CONVENTIONAL FINISHING METHOD	KEY APPLICATION	BEAR-TEX PRODUCT AS AN ALTERNATIVE	ADVANTAGES OF BEAR-TEX PRODUCT VERSUS ALTERNATE FINISHING METHODS
Bristle Brushes	Cleaning	Clean & Finish Wheels Metal Finishing Wheels Flap Wheels	Superior cleaning performance Higher productivity No slurry or compound required More consistent finish Eliminate compound dust and flying bristles
Greaseless Compounds	Finishing	Flap Wheels Convolute Wheels Unified Wheels	Reduced maintenance No compound, instant set-up Elimination of compound dust More uniform finish More consistent work rate
Set-up Wheels	Blending/ Deburring	Convolute Wheels Unified Wheels	No break-in time required More consistent cut More uniform finish Maintains geometry Safer, no flying wheel pieces
Steel Wool	Cleaning	Rolls Discs Hand Pads	Faster, longer life Less pressure required Non-rusting, cleaner Safer, no splinters

## Abrasives

Silicon carbide and aluminum oxide abrasives are offered. Silicon carbide is sharper, cuts faster, and produces finer scratch patterns on most surfaces. Aluminum oxide is more durable and tends to last longer. It causes less discoloration on aluminum, and is more aggressive on certain applications such as hardened steel parts. Bear-Tex hand pads and rolls are also available in a non-abrasive material.

## Grits

Grit refers to the size of the abrasive grain impregnated into the nylon web. The coarser the grit, the more aggressive the cut, the rougher the finish. The finer the grit, the less aggressive the cut and the resulting surface finish will be finer, if all other conditions are equal.

GRIT DESIGNATIONS	GRIT SIZE
Extra Coarse (XC)	24 – 36
Coarse (C)	50 – 80
Medium (M)	100 – 150
Fine (F)	180 – 220
Very Fine (VF)	240 – 360
Super Fine (SF)	400
Ultra Fine (UF)	600
Micro Fine (MF)	800 – 1200

## Densities

The product "density" refers to the number of fibers which have been compressed into the nylon web material. Under identical conditions, harder density wheels cut faster, last longer and produce finer finishes than softer density wheels. Softer density wheels offer greater conformability and have less tendency to load or burn the work piece.

## Fiber Sizing

Several nylon fiber sizes are used in the manufacture of Bear-Tex web material because the fiber size is a significant factor in the coating process, as each produces distinct cutting characteristics.

## Bonding Agents

Waterproof resins are used in the manufacture of Bear-Tex web material to bond the nylon fibers together and to firmly anchor the abrasive grains throughout the web.

# BEAR-TEX SURFACE FINISHING PRODUCTS

## Getting the Most Out of Bear-Tex Wheels

Maximum wheel life and best surface conditioning results can be achieved by closely adhering to the following recommendations.

### 1) Wheel Direction

Convolute wheels and interleaf flap wheels must always run in the direction indicated by the arrow printed on the side of each wheel. Conventional flap wheels and unified wheels can be run in either direction.

### 2) Wheel Speed

Wheel speed is an important factor in that it affects product finish, rate of cut, and wheel life. In general, fast wheel speeds give harder action and a finer finish; whereas, slower speeds give a softer action and a coarser finish for the same wheel density.

The following are recommended operating speeds for the most common applications.

APPLICATION	RECOMMENDED SPEED
Cleaning and upgrading of surface conditions	2200 to 6000 SFPM
Cut-buffing on metal surfaces	6500 to 8000 SFPM
Deburring	5500 to 8000 SFPM
Decorative finishing	500 to 3000 SFPM
Imparting decorative finishes	900 to 3000 SFPM
Oxide removal	3500 to 6500 SFPM

TESTING MAY SHOW THAT A SLOWER OR FASTER SPEED IS DESIRABLE FOR SPECIFIC OPERATIONS. NEVER EXCEED THE MAXIMUM RPM RATING OF THE WHEEL.

### 3) Pressure

Light to medium pressure is recommended for most operations. Flap wheels require much lighter pressure to perform properly than other Bear-Tex wheels; unified wheels can withstand much higher pressures in order to perform deburring jobs. In all cases, avoid excessive pressure which may result in wheel deformation and damage to the work surface.

### 4) Feed Speed

Low feed speed reduces the number of workpieces completed, while producing a shorter scratch pattern. Slow feed speed allows for longer dwell time and permits more work to be done on each piece. Conversely, a fast feed speed increases the number of workpieces completed, while producing a longer scratch pattern.

### 5) Oscillation

Oscillation may be used to break up scratch lines and produce a more uniform finish. Additionally, an increase in cut may be experienced. A general starting point for oscillation is 3/8" amplitude at 200 cycles per minute.

### 6) Lubricants

Lubricants, such as water, water soluble oil and straight oil, will decrease the heat generated while running, improve the luster, and reduce the surface finish. The higher the viscosity of the lubricant, the lower the surface finish (RMS value) produced.

## Factors in Wheel Choice

This chart provides a relative comparison of other Bear-Tex wheel variables. It can serve as a useful guide in choosing the most suitable product for a given application. However, as many other

factors affect wheel performance, this chart can only be general in nature. The most cost-effective results can always be obtained by wheel testing on the application.



\* ON STEEL SURFACES, SILICON CARBIDE WHEELS WILL PRODUCE A BRIGHTER FINISH THAN ALUMINUM OXIDE WHEELS.

## Surface Finish Variables

Changes in any one of many factors can affect the surface finish on the work piece. This chart shows the effect on surface finish by changes in single factors of product specifications. Arrows have been used to signify the trend direction. The arrow length does not signify that the effect of each factor is equal.

