

BONDED ABRASIVES

CENTERLESS GRINDING WHEELS

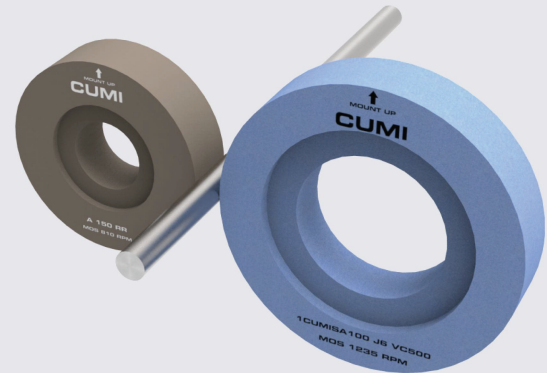
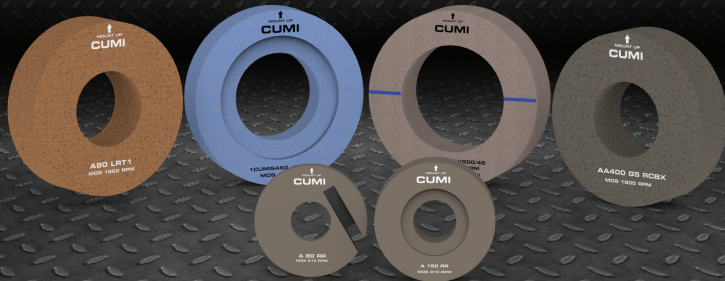
ABOUT CENTERLESS GRINDING WHEELS

An application which presents the most daunting challenges to any abrasive manufacturer. The range of requirements and priorities of this application varies from product to product which calls for an equally wide range of offerings to suit the same. Since in most of the Centerless applications, more than one wheel is mounted on the spindle, extremely tight tolerances need to be maintained in the geometry and densities of the wheels to ensure uniform wear patterns even if each wheel in the set is different.

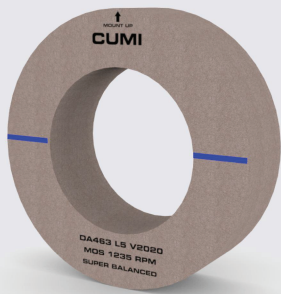
CUMI has the expertise, when it comes to Centerless applications thanks to the advanced manufacturing process, premium Abrasive grains and specially designed Vit-rified, Resin and Rubber bond systems to suit the application needs. Customized solutions are provided for every application and specific requirement. Be it through-feed, end-feed or in-feed, CUMI wheels ensure that components are finished to stringent quality requirements.

FEATURES:

- Unique set of combination wheels for higher stock removal, good surface roughness and higher productivity
- Unique grain combination for specific application
- Cork bond for superior surface roughness & luster
- Wide range of bond system to customize individual grinding needs



ADVANTAGES OF CUMI WHEELS



1. High stock removal
2. Lower dressing frequency
3. Burn free component
4. Better productivity
5. Excellent surface finish

WIDTH OF PRODUCT RANGE

CUMI Code	Grit Range	Diameter		Thickness		Hardness	Structure	Speed
		mm	inch	mm	inch			mps
CUMISA	46 - 120	350 - 610	14 - 24	100 - 250	4 - 10	I - N	6 & 8	35.50 & 63
50A / 50MA	46 - 120					I - N	7	35 & 50
65A	80-220					L	-	40
SA	46 - 120					I - N	5 - 7	35 & 50
9A	46 - 120					I - P	5 - 7	35 & 50
SBA	46 - 120					I - P	5 - 7	35 & 50
AA	46 - 120					I - N	5 - 7	35 & 50
DA	46 - 120					I - P	5 - 7	35 & 50
A	46 - 120					I - P	5 - 7	35 & 50
C	46 - 120					I - N	5 - 7	35 & 50
GC	46 - 120	I - N	5 - 7	35 & 50				

SHAPES



COMMONLY USED MACHINES

- Cincinnati •WMW •Marcus •Lid koping •Micron

Type	Operation	Speed	Best	Better	Good
Mono Valve (Inlet Valve)	Rough	35	9A463 M3 V887	A463 P5 V2020	A463 M3 V2018
		50	9A463 M3 V887/50	A463 P5 V2020/50	A463 M3 V2018/50
	Semi Finish	35	9A60 L5 V887	DA60 V2016	A60 L5 V2016
		50	9A60 L5 V887/50	DA60 V2016/50	A60 L5 V2016/50
	Finish	35	9A100 S5 V887	DA100 J5 V2016	A100 J5 V10C
		50	9A100 S5 V887/50	DA100 J5 V2016/50	A100 J5 V10C/50
Bi - Metal (Exhaust Valve)	Rough	35	9A463 M3 V887		
		50	9A463 M3 V887/50		
	Semi Finish	35	9A60 L5 V887		
		50	9A60 L5 V887/50		
	Finish	35	9A100 J5 V887		
		50	9A100 J5 V887/50		

* Finishing Operation:

For Roughness 0.3 Ra --> Use Grit 100

For Roughness < 0.3 Ra -> Use Grit 150



BEARING RING

Type	Operation	Speed	Best	Better	Good
Outer Diameter (TRB,SRB,CRB)	Rough & Finish	35			A463 L5 V10C
		50	55A54 I7 VC500/50 55A80 I7 VC500/50	DA54 I6 TDV876/50 DA80 I6 TDV876/50	A463 L5 V10C/50 A80 K5 V10C/50

Note: Special Wheels

Wheel Dimension	Operation	Speed	Best	Better	Good
Outer Diameter (Ball Bearing) 610 X 610 X 304.8 508 X 610 X 304.8 610 X 508 X 304.8	Roughing & Finishing	50	53MA461 J7 VC500/50	1CUMISA461 J6 VCAE/50	DA60 I6 TDV876
			53MA541 J7 VC500/50	1CUMISA541 J6 VCAE/50	DA80 I6 TDV876
			53MA601 J7 VC500/50	1CUMISA601 J6 VCAE/50	-
			53MA801 J7 VC500/50	1CUMISA801 I6 VCAE/50	-
	Roughing & Finishing	63	53MA461 J7 VC500/63	1CUMISA461 J6 VCAE/63	-
			53MA541 J7 VC500/63	1CUMISA541 J6 VCAE/63	-
			53MA601 J7 VC500/63	1CUMISA601 J6 VCAE/63	-
			53MA801 J7 VC500/63	1CUMISA801 I6 VCAE/63	-
Outer Diameter (Railway Bearing) 610 X 864X 304.8	Roughing & Finishing	35	RAA60 J+4 V2016	-	-
			RAA80 J+4 V2016	-	-
			RAA100 I+4 V2016	-	-



BEARING ROLLER

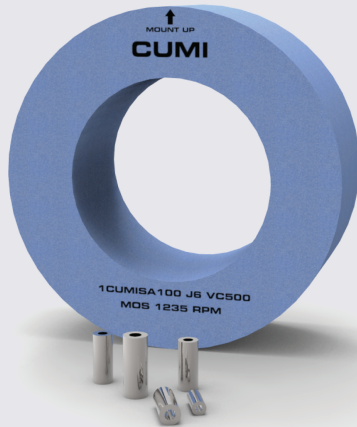
Type	Operation	Speed	Best	Better	Good
Outer Diameter - Taper Roller	Rough	35	65A801 L RT1	A80 L RT3	A80 L RT1
		50	65A801 L RT45	A80 L RT45	-
		35	-	A80 MRT3	-
		50	For >1.5" roller	55BA60 K5 V50	-
	Finish	35	65A100 M RT1 65A120 L RT1	A120 M RT1	A100 M RT1; A120 L RT1
		50	For >1.5" roller	55A80 K5 V50 DA80 J5 V2020/50	
	Fine Finish	35	DA400 H7 RBCX	-	-
		50	DA500 H7 RBCX	-	-
Outer Diameter - Cylindrical Rollers	Rough	35	1CUMISA60 J6 VCAE	53A60 J7 VC500	AA60 K5 V8
		50	1CUMISA60 J6 VC500/50	53A60 J7 VC500/50	AA60 K5 V50
	Finish	35	1CUMISA80 J6 VCAE	53A80 J7 VC500	AA80 K5 V8
		50	1CUMISA80 J6 VC500/50	53A80 J7 VC500/50	AA80 K5 V50
Needle Roller	Rough	35	GC120 M5 VG	-	-
		50	GC120 M5 VG/50	-	-
	Finish	35	GC1201 N5 VS2110M/50	A120 M RT1	A120 L RT1



PINS

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Type	Operation	Speed	Best	Better	Good
Gudgeon Pin	Rough	35	1CUMISA461 K6 VCAE	AA463 L5 V2020	A463 L5 V10C
		50	1CUMISA461 K6 VC500/50	AA463 K5 V2020/50	A463 K5 V45C
	Semi Finish	35	1CUMISA601 K6 VCAE	AA60 L5 V2020	A60 L5 V10C
		50	1CUMISA601 K6 VC500/50	AA60 K5 V2020/50	A60 K5 V45C
		35	1CUMISA100 J6 VC500	AA100 J5 V2020	A100 J5 V10C
	Finish	50	1CUMISA100 J6 VC500/50	AA100 J5 V2020/50	A100 J5 V45C
		35	-	A220 N5 VK12	-
	Fine Finish	35	A400 F5 RABX	C320 P5 BYZ	-
	Super Finish	45	A400 G7 RBCX	-	-



SHOCK ABSORBER

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Type	Operation	Speed	Best	Better	Good
Inner Tube / Fork Pipe	Rough	35	55A603 N7 B99 55A603 J7 B600	DA603 N7 B99	A80 N7 B310
		50	55A603 N7 B99/50 55A603 J7 B600/50	DA603 N7 B99/50	A80 N7 B310/50 A220 L RT1
	Semi Finish	35	65A220 L RT1	DA220 L RT1	A220 L RT1/50
		50	65A220 L RT1/50	DA220 L RT1/50	-
	Finish	35	DA400Z/A5005 H7 RBCZ/50	-	-
		50	-	-	-
Piston Rod	Rough	35	55A603 N7 B99 55A603 J7 B600	A801 N7 B99	A60 K5 V10C
		50	55A603 N7 B99/50 55A603 J7 B600/50	DA603 N7 B99/50	-
	Semi Finish	35	65A220 L RT1	A220 L RT1	-
		50	65A220 L RT1/50 DA120/DA240/A400 H7 RBCZ/50	A220 L RT1/50	-
	Finish	35	AA 400/A500 G5 RBCZ DA400 H7 RBCZ/50	-	-
		50	A500 H7 RBCZ/50	-	-



Type	Operation	Speed	Best	Better	Good
BRIGHT BAR	Rough	35	C463 M5 VG	C/G463 M5 VPZ	DA463 L5 V600
		50	1CUMISA463 N5 B820/50	CA60 J5 B995/50	-
	Finish	35	-	C601 M5 VG	DA60 L5 V600
		50	1CUMISA603 N5 B820/50	C603 N5 B820/50 CA60 J5 B995/50	

Aerospace

Type	Component Material	CUMI Recommend	Speed
FASTENERS	Hard steel	A80 N5 /A120 P5 V2018	33mps
	Titanium	GC120 R5 VFG	33mps
	Inconel	3CSA120 P7 VF920	33mps



Type	Operation	Speed	Best	Better	Good
Piston Ring	Rough	35	-	-	C463 L5 VG
		50	-	-	-
	Finish	35	-	-	C60 L5 VG
		50	-	-	-

Type	Operation	Speed	Best	Better	Good
Grey Cast Iron	Rough	35	C543 J7 B190K	-	C543 K5 B190
		50	C543 J7 B190K/50	-	C543 K5 B190/50
SG Iron	Rough	35	-	C543 K5 B903	-
		50	-	C543 K5 B903/50	-



Type	Operation	Speed	Best	Better	Good
Drills & Taps	Rough	35	5SBA463 M5 V10C	A463 L5 V446C	A463 L5 V10C
		50	5SBA463 M5 V50C	A463 L5 V446C/50	A463 L5 V50C
	Semi Finish	35	DA60 M5 V10C	A60 L5 V446C	A60 L5 V10C
		50	DA60 M5 V50C	A60 L5 V446C/50	A60 L5 V50C
	Finish	35	DA80 K5 V10C	A80 K5 V446C	A80 K5 V10C
		50	DA80 K5 V50C	A80 K5 V446C/50	A80 K5 V50C



ABOUT FEED/REGULATING WHEELS

CUMI's regulating wheels are the best in class in the world. These wheels are made using a distinct calendaring process, leading to superlative & consistent performance making it as the most preferred product in the industry. The controlled wear not only leads to highly precise components but also gives longer life.

FEATURES:

- Tough grains for long life
- Resilient rubber for better finish

PRODUCT RECOMMENDATION

For Rough	A80 RR
For Size Control	A120 RR
	A150 RR
For Size Control & Better Finish	A180 RR
	A180 TR





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