

BONDED ABRASIVES GEAR GRINDING WHEELS



GEAR GRINDING



BONDED ABRASIVES

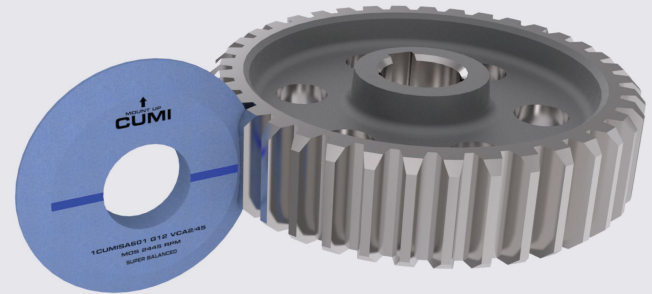
ABOUT GEAR GRINDING WHEELS

One of the most advanced grinding applications, the sheer amount of parameters that are measured/controlled during the grinding of gears poses enough of a challenge to give abrasive manufacturers a run for their money. Intricate profile accuracy while maintaining high Material removal rates (Q') and Dressing frequency (V') are the major requirements in this application.

CUMI's Specially designed sharp crystalline grain combination and Krystal bond systems enable us to predict wheel wear patterns and thereby modify our wheels to ensure that the necessary profile and surface roughness is achieved consistently while maintaining low cycle times. While the combination ensures performance, our world class manufacturing set up makes sure that all the varieties of gear grinding like single rib, multi rib, bevel etc. are covered.

FEATURES

- Fusible, glassy crystalline bond for improved form holding
- Special filling, pressing and sintering process for uniform hardness across width
- High precision CNC profiling of wheel and inspection



GEAR GRINDING



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ADVANTAGES OF CUMI WHEELS



1. Burn free surface
2. High volume metric removal
3. Reduced dress depth and frequency
4. Good form holding for profile accuracy
5. Controlled wear and highly consistent performance throughout working life

WIDTH OF PRODUCT RANGE

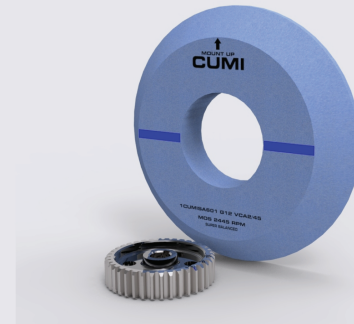
CUMI Code	Grit Range	Diameter		Thickness		Speed mps	Hardness	Structure
		mm	inch	mm	inch			
CUMISA/ CSA	46 - 120	80 -508	3 1/4 - 20	10 - 150	3/8 - 6	35 & 50	G - J	8 - 18
70CN/ 70CSA								
55A								

COMMONLY USED MACHINES

- Niles • Hofler • MAAG
- Gleason-Pfauter • Samputensili

CONVENTIONAL PROCESS

Gear Module	Stock Removal	Best	Better	Good
Upto 8 M	Upto 5Q'W	3CUMISA801 G12 VCA2	55A801 G12 VCA2	RAA80 H10 V736
	Above 5 upto 15Q'W	72CN801 G18 VC600/50	3CUMISA801 G18 VCA2	1CUMISA801 G15 VCA2
Above 8 M	Upto 5Q'W	3CUMISA601 G13 VCA2	3CUMISA601 G13 VCA2	1CUMISA601 G13 VCA2
	Above 5 upto 15Q'w	72CN601 G18 VC600/50	3CUMISA601 G18 VCA2	1CUMISA601 G18 VCA2



SINGLE RIB GEAR GRINDING

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COMMONLY USED MACHINES

- Gleason • Pfauter • Samputensili • Hofler • Niles

Speed

CNC PROCESS

Gear Module	Stock Removal	Best	Better	Good
Upto 5 M	Upto 5Q'W	73CSA801 G15 VC600	72CSA801 G15 VC600	1CSA601 G12 VC600
	6Q' to 8Q'W	73CSA801 G15 VC600	72CSA801 G15 VC600	3CSA601 G13 VC600
	Above 8Q'	73CSA801 G18 VC600	72CSA801 G18 VC600	3CSA601 G13 VC600
6 to 8 M	Upto 5Q'W	72CN801 G15 VC600	72CSA801 G15 VC600	3CSA601 G13 VC600
	6Q' to 8Q'W	72CN801 G18 VC600	72CSA801 G18 VC600	3CSA601 G15 VC600
	Above 8Q'	72CN801 G20 VC600	72CSA801 G20 VC600	3CSA601 G18 VC600
Above 8 M	Upto 5Q'W	72CN801 G18 VC600	72CSA801 G18 VC600	3CSA601 G15 VC600
	6Q' to 8Q'W	72CN801 G20 VC600	72CSA801 G20 VC600	3CSA601 G18 VC600
	Above 8Q'	72CN801 G28 VC600	72CSA801 G28 VC600	3CSA601 G20 VC600

MULTI RIB GEAR GRINDING

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WIDTH OF PRODUCT RANGE

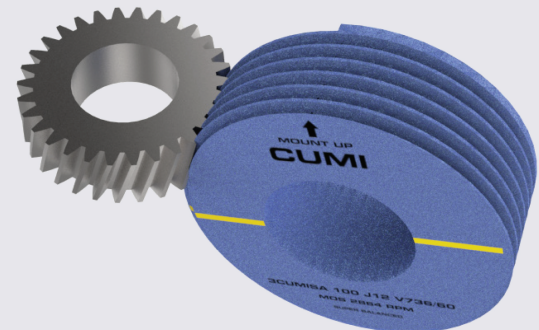
CUMI Code	Structure	Speed	Grit Range	Diameter		Thickness		Hardness
		mps		mm	inch	mm	inch	
CN	10 - 13	50, 63 & 80	80 - 120	250 - 400	10 - 16	80 - 250	3/4 - 10	I - K
CUMISA/ CSA								
24R	10 - 13	50, 63 & 80	60 - 180					
SA	5 - 7	35 & 50						

COMMONLY USED MACHINES

- Reishauer (ZB/OZA/AZA/NZA/ RZ series) • Kapp
- Leibherr • Buri • Samputensili • Mitsubishi • Nidec

CONVENTIONAL PROCESS

Gear Module	Best	Better	Good
upto 1.5 M	1CUMISA120 V736/50	-	RA120 I12 V736/50
1.75 M - 2.25 M	3CUMISA100 I12 V736 /50	-	SA100 I7 V677/50
2.5 M - 4 M	3CUMISA 80 I12 V736 /50	-	SA 80 K5 V677/50
Above 4.25 M	3CUMISA 80 J12 V736 /50	-	SA 60 K5 V677/50



MULTI RIB GEAR GRINDING

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COMMONLY USED MACHINES

- Reishauer RZ301S, RZ361S, RZ362A
- Liebherr (LCS200 / LC280)
- Kapp •Gleason •Pfafter •Samputensili

CNC PROCESS

Gear Module	Best	Better	Good
upto 1.5 M	2CN120 I12 V736/80	3CSA120 I12 V736/80	24R120 I12 V736/80
1.75 M - 2.25 M	2CN100 J12 V736/80	3CSA100 J12 V736/80	24R100 J12 V736/80
2.5 M - 4 M	2CN80 J12 V736/80	3CSA80 J12 V736/80	24R80 J12 V736/80
Above 4.25 M	2CN80 J12 V736/80	3CSA80 J12 V736/80	24R80 J12 V736/80

SHAVING CUTTER

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WIDTH OF PRODUCT RANGE

CUMI Code	Grit Range	Diameter		Thickness		Hardness	Structure	Speed
		mm	inch	mm	inch			
53A	100 - 120	750 - 800	29 1/2 - 31 1/2	20 - 50	3/4 - 2	G - I	10 - 13	35
RA						I - K	5 - 8	
AA								

COMMONLY USED MACHINES

- Hurth • Mitsubishi

Process	Best	Better	Good
Shaving Cutter	53A120 G13 VCA2	RA120 G6 TDV155	AA100 H8 VF8



HONING & HOB RE-SHARPENING

WIDTH OF PRODUCT RANGE

CUMI Code	Grit Range	Diameter		Thickness		Hardness	Structure	Speed
		mm	inch	mm	inch			
CUMISA						I - K	6 - 8	mps
73CSA	80 - 220	80 - 508	3 1/4 - 20	10 - 50	3/8 - 2	G - J	10 -15	35 & 50
RAA								

COMMONLY USED MACHINES

- Prawema •SyncroFine •Gleason-Hurth •Fassler
- Seiwa •Emag •Kapp •Kanzaki Power

Type	Specification
Vitrified honing	CUMISA220 V894
Epoxy resin honing	CUMISA180 E895

Type	Best	Better	Good
Hob Re-sharpening	73CSA60 G15 VC600	3CSA80 G12 VC600	RAA60 H12 V736



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