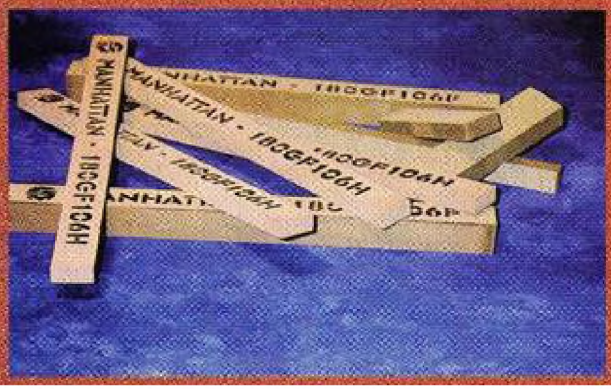
ABRASIVOS MANHATTAN. S.A.

PRODUCTOS EN LIGA CAUCHO PARA USO UNIVERSAL
MULTI-PURPOSE RUBBER BONDED PRODUCTS
PRODUITS EN CAOUTCHOUC D'UTILISATION UNIVERSELLE



Архангельск (8182)63-90-72
Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Киргизия (996)312-96-26-47
Россия (495)268-04-70
Казахстан (772)734-952-31

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PRODUCTOS EN AGLOMERANTE CAUCHO

Las muelas de caucho para uso universal "MANHATTAN" han sido proyectadas para la obtención del acabado que convenga en función de los requerimientos de cada proceso. Por sus especiales características de elasticidad y dureza controladas, realizan un trabajo libre de choques y vibraciones hasta en su utilización más extrema.

El aglomerante caucho amortigua la acción del abrasivo, obteniendose un corte limpio, sin rayas o marcas que deban ser posteriormente eliminadas. Su escasa conductividad térmica consigue un rectificado de la pieza exento de quemaduras o recalentamientos y la perfecta fusion del abrasivo y del ligante garantiza un poder de corte potente para cualquier aplicación requerda de desbaste fino y acabado.

El programa de fabricacion de Abrasivos Manhattan, S.A. incluye diferentes gamas de elasticidad y concentración de granos que permiten obtener desde acabados satinados a super-acabados especulares, ofreciéndose la solución más efectiva ante cualquier requerimiento demandado. El amplio espectro de productos fabricados incluye desde muelas totalmente elásticas que se adaptan a cualquier irregularidad de la pieza o de su contorno hasta muelas mucho más firmes y técnicas que se emplean para aplicaciones que requieran mayores grados de precisión y rigurosidad. La composición química de toda esta gama de productos está exenta de materiales contaminantes y su utilizacion es inocua si se observan las recomendaciones generales para el uso de abrasivos mecánicos. Las operaciones se realizan tanto en seco como con líquido refrigerante.

Las muelas en ligante caucho "MANHATTAN" poseen una elevada estabilidad química y física en condiciones de uso y almacenamiento adecuados, siendo resistentes a la oxidación y al calor, sin haberse detectado hasta el momento incompatibilidades con los refrigerantes habituales del mercado.

Su campo de utilización es tan amplio y variado que resulta imposible enumerar todas sus aplicaciones. En los siguientes apartados encontraran una breve indicación de las múltiples posibilidades de aplicación de estos productos.

RUBBER BONDED PRODUCTS

"MANHATTAN" grinding wheels for universal use, have been designed to obtain a suitable kind of finish for the requirements of each procedure. Due to their special features of controlled elasticity and hardness, they operate free of knocks and vibrations even in the most extreme conditions.

The rubber bond dampens the grinding action, giving a clean cut, without scratches or marks that would subsequently have to be eliminated. Low thermal conductivity achieves a true grinding of the part, avoiding burns or reheating. A perfect fusion between the abrasive and its bond guarantees a powerful cutting strength for any fine rough grinding or finish application required.

The Abrasivos Manhattan, S.A. manufacturing programme includes different ranges of elasticity and grain concentration to enable us to obtain from satin finishes to mirror super-finishes, offering the most effective solution to any requirement. The wide spectrum of manufactured products includes from totally elastic grinding wheels that adapt to any irregularity on the part or its contour, to much firmer and more technical grinding wheels used for applications that require high degrees of precision and rigorousness. The chemical composition of the whole range of products does not contain pollutant materials, as our products are harmless if the general recommendations for the use of mechanical grinding wheels are observed. Operations may be carried out both dry and with cooling liquid.

"MANHATTAN" rubber bonded grind wheels possess high chemical and physical stability in suitable conditions of use and storage and are resistant to oxidation and heat. To date no incompatibilities have been found with the usual coolants on the market.

The field of use is so wide and varied that it is practically impossible to give a complete list of applications. In the following sections you will find a brief list of the multiple possibilities offered by these products.

PRODUITS EN AGGLOMERANT CAOUTCHOUC

Les meules universelles en caoutchouc "MANHATTAN" ont été développées afin obtenir un fini convenable suivant les demandes de chaque procès. La souplesse de ces meules ainsi que leur dureté et granulométrie permettent un travail libre de tout choc et de toute vibration même dans des conditions d´utilisation extrême.

L´agglomérant caoutchouc réduit l´action agressive tout en achevant une coupe franche qui élimine les rayures ou marques évitant des proces ultérieurs. La faible conductivite thermique de l´agglomerant permet une rectification de la piece sans brûlures ou échauffements. La parfaite union entre le grain abrasif et l´agglomérant engendre un pouvoir de coupe appreciable sur n´importe quelle application d´ebavurage léger et de finition.

La gamme de fabrication d´ Abrasivos Manhattan, S.A. possibilite de nombreuses alternatives de dureté et de granulométrie qui embrasse toutes les finitions possibles, du satiné au fini mirroir, afin d´offrir la meilleure solution dans chaque cas. La gamme de produits frabriqués est très variée et contemple des meules flexibles qui s´adaptent à n´importe quelle irrégularité de la pièce ou à son contour, jusqu´aux beaucoup plus rigides et techniques qui s´emploient sur des applications qui exigent des degres de precision et de rigueur beaucoup plus sévéres.

La composition chimique de notre gamme de produits ne contient pas de produits contaminants et leur utilisation n´est aucunement nuisible si les recommendations générales pour l´emploi d´abrasifs mecaniques sont observées. Les opérations peuvent se réaliser à sec ou avec du liquide réfrigerant.

Les meules en liant caoutchouc "MANHATTAN" sont stables chimique et physiquement dans des conditions d´utilisation et de stockage convenables; elles sont résistantes à l´oxydation et à la chaleur, sans avoir détecté jusqu´à présent d´incomptabilités avec les réfrigérants du marché.

Leur champ d´utilisation est tellement vaste et varie qu´il est pratiquement impossible d´énoncer toutes les applications. Dans les sections suivantes vous trouverez un resume des possibilites d´application de ces produits.

CAMPOS DE APLICACIÓN
APPLICATION GUIDE
GUIDE D'APPLICATIONS

CAUCHO / RUBBER / CAOUTCHOUC			ELASTICO FLEXIBLE FLEXIBLE	SEMI-ELASTICO SEMI-FLEXIBLE DEMI-SOUPLE				SEMI RIGIDO (reforzado) SEMI-HARD (reinforced) DEMI-DUR (renforcé)	RIGIDO HARD DUR	DURO VERY HARD TRES DUR			Otros Others Autres
APLICACIONES	APPLICATIONS	APPLICACTIONS	FP1065	1 0 6	4 4	4 9	AJ-VS A-AVSP	GF44	8M4	KL 1000	RL	V 7	
AUTOMOCIÓN	**AUTOMOTIVE**	**AUTOMOBILE**											
Agujas Inyectoras	Injection Needle	Aiguilles a Injection				●							
Arbol de Levas	Cam Shaft	Arbres à Cames		●	●	●							
Bloques de Motor	Engine Blocks	Blocs Moteur		●	●	●							
Cigüenales	Crank Shaft	Vilebrequins		●	●	●							
Pistones	Pistons	Pistons		●	●	●							
Ruedas de Bicicleta	Bicycle Wheels	Roues de bicyclettes		●									
Segmentos de Pistón	Piston Rings	Segments de Pistons		●									
Soldaduras	Weldings	Soudures		●	●	●		●		●			
MECANICA/ MAQUINARIA	**MECHANICS/ MACHINERY**	**MÉCANIQUE/ MACHINES OUTILS**											
Bancadas	Bedplates	Bâtis		●									
Barras	Bars	Barres		●									
Bolas	Balls	Boules		●					●		●		
Cilindros Metálicos	Metal Cylinders	Cylindres Metalliques		●									
Ejes de Motor	Engine Axles	Axes de Moteurs		●									
Engranajes (pulido)	Gearing	Engrenages		●	●	●							
Matrices y Moldes	Dies & Moulds	Moules et Matrices	●	●					●				
Rodamientos	Bearings	Roulements		●									
Troqueles	Dies	Viroles	●	●									
Trefilería	Wire grooves	Tréfilerie							●				
ÚTILES HERRAMIENTAS	**APPLIANCES TOOLS**	**OUTILLAGE**											
Barrenas de Minería	Mining Bore	Forets de Mines		●	●	●							
Brocas	Drills	Forets		●					●				
Cuchillas	Blades	Lames		●					●				
Discos de Corte	Cutting Discs	Disques de Coupe		●									
Formones	Chisels	Ciseaux à bois		●									
Hachas	Hatches	Haches		●									
Herramientas de Corte	Cutting Tools	Outils de Coupe		●									
Machos de Roscar	Thread Taps	Tarauds		●					●				
Peines de Cardas	Card Combs	Cardes							●				
Sierras Circulares	Circular Saw	Scies Circulaires											●
Sierras de Cinta	Annular Saw	Scies a Ruban		●									
Útiles de Labranza	Farming Tools	Outils de Labourage		●									
MENAJE ALIMENTACIÓN	**HOUSEHOLD ITEM FOOD**	**MENAJE ALIMENTAIRE**											
Contenedores	Containers	Containers		●	●	●		●					
Cucharas	Spoons	Cuilléres				●							
Cuchillas	Knives	Lames		●									
Cuchillos	Food Knives	Couteaux		●									
Pucheros (interior)	Pots (interior)	Casseroles (interieur)		●		●	●						
Pucheros (rayado ext.)	Pots	Casseroles	●										
Tenedores	Forks	Fourchettes				●				●			
Tijeras	Scissors	Ciseaux		●									
Vajillas de Alta Gama (Plata)	High Range Crockery (Silver)	Ménage Haute Gamme (Argent)		●		●							
INDUSTRIA MEDICA	**MEDICAL IND.**	**IND. MEDICALE**											
Agujas Hipodermicas	Hypodermic Needle	Aiguille hypodermique						●					
Bisturíes	Scalpels	Bistouries		●				●					
Contenedores	Containers	Containers	●	●	●	●			●				
Rótulas Ortopédicas	Orthopaedic Joints	Rotules orthopédiques	●			●			●				
CONSTRUCCION	**CONSTRUCTION**	**CONSTRUCTION**											
Azulejos cerámicos en crudo	Uncooked ceramic tiles	Carreaux céramiques à cru										●	
VARIOS	**OTHERS**	**AUTRES**											
Circuitos Impresos	Printed Circuitry	Circuit imprime				●			●				
Orfebrería	Goldsmithing	Orfevrerie		●	●	●							
Relojes	Swatches	Montres	●	●									
Espadas y Florines	Swords	Epées		●	●	●			●				
Vidrio Plano	Flat Glass	Verre Plat					●						●

PRODUCTOS EN LIGA CAUCHO PARA USO UNIVERSAL
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PRODUITS EN CAOUTCHOUC D'UTILISATION UNIVERSELLE

INFORMACION GENERAL

Dentro ce cada grupo y composicion de producto, se encuentran disponibles las siguientes durezas y granulometrías.

Las excepciones se han señalado expresamente.

DUREZA E	→	DUREZA P
+ Rígido y + Duro		+ Elástico y + Blando
+ Corte		+ Pulido

La combinación en diferentes granulometrías modifica el comportamiento anterior de la siguiente manera:

GRANO 24	→	GRANO 500
Muy basto		Muy Fino
+ Corte y + Flexible		+ Pulido y - Rígido

MATERIALES

Acero comun
Acero de Construccion
Acero de Herramientas
Acero Inox. Austenitico
Acero Inox. Martensiticio
Acero Inox. Perlitico
Acero Rapido
Acero Templado
Acero Tratado
Aleación Acero Inoxidable
Aluminio
Bronce
Caucho
Cerámica
Cromo
Diamante
Hastaloy
Latón
Metales No Ferricos
Monel
Níquel
Oro
Plastico
Plata
Plomo
Titanio
Vidrio

GENERAL INFORMATION

Within each product group and compositior the following hardness and grit sizes are available.

Exceptions are expressly indicated.

HARDNESS E	→	HARDNESS P
+ Rigid & + Hard		+ Elastic & + Soft
+ Cut		+ Polished

The combination in different grit sizes modifies the above performence in the following way:

GRAIN 24	→	GRAIN 500
Very rough		Very Fine
+ Cut & + Flexible		+ Polished & + Rigid

MATERIALS

Steel
Construction Steel
Tool Steel
Stainless Austenitic Steel
Stainless Martensitic Steel
Stainless Perlitic Steel
High-Speed Steel
Tempered Steel
Treated Steel
Stainless Steel Alloy
Aluminium
Bronze
Rubber
Ceramic
Chrome
Diamond
Hastaloy
Tin
on-Ferrous Metals
Monel
Nickel
Gold
Plastic
Silver
Lead
Titanium
Glass

INFORMATION GENERALE

Dans chaque groupe et composition, les suivantes duretes et granulometries se trouvent disponibles.

Les exceptions ont été signalées expressément.

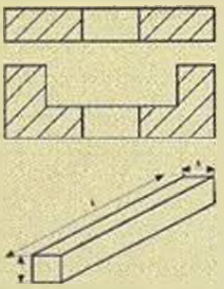
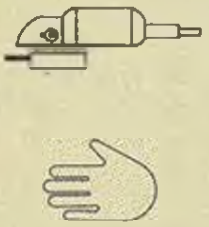
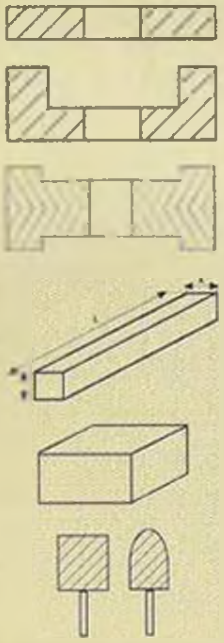
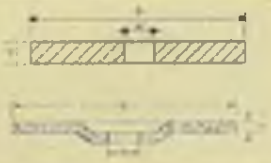
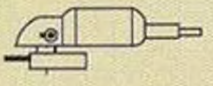
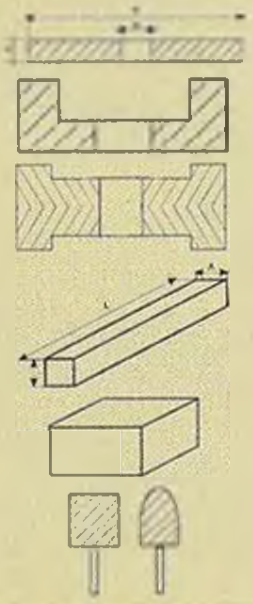
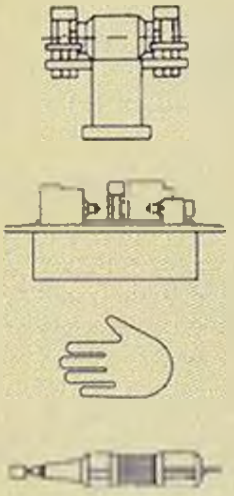
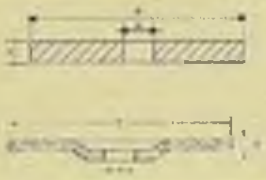
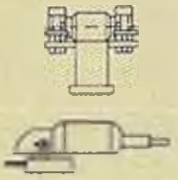
DURETE E	→	DURETE P
+ rigide et + dur		+ flexible et + mou
+ de coupe		+ de polissage

La combinaison des differentes granulometries modifie le comportement décrit de la suivante manière:

GRAIN 24	→	GRAIN 500
Tres gros		Tres fin
+ de coupe et + flexible		+ de polissage et + rigide

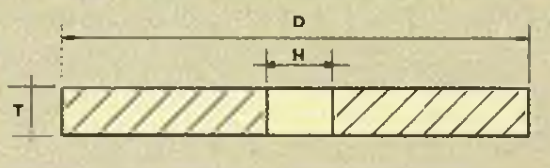
MATERIAUX

Acier
Acier de Construction
Acier d' Outillage
Acier Inox. Austenitique
Acier Inox. Martensitique
Acier Inox. Perlitique
Acier Rapide
Acier Trempé
Acier Traité
Alliage Inox.
Aluminium
Bronze
Caoutchouc
Ceramique
Chrome
Diamant
Hastaloy
Laiton
Métaux Non-Ferreux
Monel
Niquel
Or
Plastique
Argent
Plomb
Titanium
Verre

CARACTERÍSTICAS CHARACTERISTICS CHARACTERISTIQUES	ESPECIFICACIÓN SPECIFICATION SPECIFICATION	FORMA SHAPE FORME	MÁQUINA MACHINE MACHINE	M/S
ELÁSTICO FLEXIBLE FLEXIBLE	KFP-106S			20
SEMI-ELÁSTICO SEMI-FLEXIBLE DEMI-SOUPLE	106 44 49 Metal IG AF-VS A-AVSP CE Vidrio / Glass / Verre Metal			32
SEMI-RÍGIDO SEMI-HARD DEMI-DUR	46GF44 80GF44			63
RÍGIDO HARD DUR	BM4			35
DURO VERY HARD TRÈS DUR	24KL1000 46KL1000			63 80

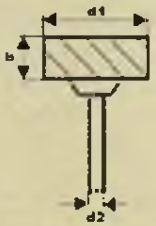
SERIES FABRICADAS • PRODUCTS • PRODUCTION

MUELAS RECTAS Y CON FORMA
STRAIGHT & SHAPED WHEELS
MEULES PLATES ET AVEC FORME



	mm.	Inches
D	25 ¤ 650	1 ¤ 26
T	3 ¤ 250	1/8 ¤ 10
H	1,5 ¤ 406	1/6 ¤ 16

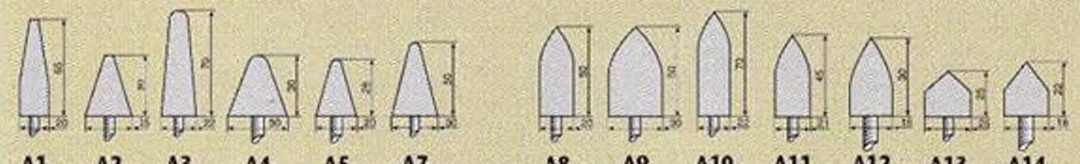
MUELAS CON VÁSTAGO
MOUNTED POINTS
MEULES SUR TIGE



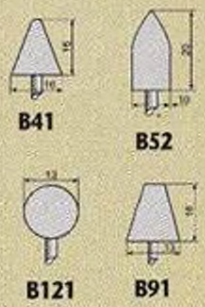
SERIE W

DENOM	mm. d1	mm. b	mm. d2	Inches d1	Inches b	Inches d2	R.P.M.	DENOM	mm. d1	mm. b	mm. d2	Inches d1	Inches b	Inches d2	R.P.M.
W-175	10	10	3	3/8	3/8	1/8	47.800	W-219	25	20	6	1	3/4	1/4	25.000
W-176	10	13	3	3/8	1/2	1/8	38.200	W-220	25	25	6	1	1	1/4	25.000
W-177	10	19	3	3/8	3/4	1/8	31.500	W-221	25	40	6	1	1 1/2	1/4	19.100
W-178	10	25	3	3/8	1	1/8	27.200	W-222	25	50	6	1	2	1/4	15.900
W-179	10	30	6	3/8	1 1/4	1/4	23.900	W-223	25	60	6	1	2 3/8	1/4	15.900
W-184	13	10	3	1/2	3/8	1/8	39.800	W-224	25	75	6	1	3	1/4	15.900
W-185	13	13	3	1/2	1/2	1/8	31.900	W-228	30	20	6	1 1/4	3/4	1/4	17.500
W-186	13	19	3	1/2	3/4	1/8	26.300	W-229	30	25	6	1 1/4	1	1/4	17.500
W-187	13	25	3	1/2	1	1/8	22.600	W-230	30	30	6	1 1/4	1 1/4	1/4	17.500
W-195	15	20	6	5/8	3/4	1/4	35.000	W-231	30	40	6	1 1/4	1 1/2	1/4	17.500
W-196	15	25	6	5/8	1	1/4	35.000	W-232	30	50	6	1 1/4	2	1/4	17.500
W-197	15	50	6	5/8	2	1/4	23.500	W-233	30	60	6	1 1/4	2 3/8	1/4	15.000
W-203	20	15	6	3/4	5/8	1/4	30.000	W-234	30	75	6	1 1/4	3	1/4	15.000
W-204	20	20	6	3/4	3/4	1/4	30.000	W-236	40	15	6	1 1/2	5/8	1/4	15.000
W-205	20	25	6	3/4	1	1/4	30.000	W-237	40	25	6	1 1/2	1	1/4	15.000
W-206	20	30	6	3/4	1 1/4	1/4	28.500	W-238	40	40	6	1 1/2	1 1/2	1/4	15.000
W-207	20	40	6	3/4	1 1/2	1/4	23.500	W-242	50	25	6	2	1	1/4	12.500
W-208	20	50	6	3/4	2	1/4	23.500								

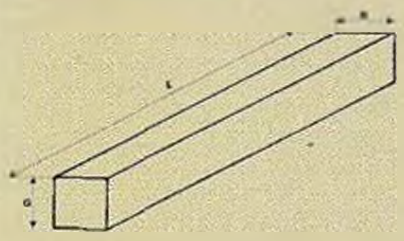
SERIE A



SERIE B

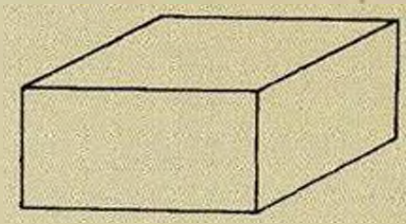


LIMAS
HAND STICKS
LIMES



A x G x L mm.	A x G x L Inches
10x10x100	3/8"x3/8"x4"
20x10x100	3/4"x3/8"x4"
15x15x150	5/8"x5/8"x6"
15x15x200	5/8"x5/8"x8"
20x10x250 (standard)	**3/4"x3/8"x10" (standard)**
30x30x200	1 1/4"x1 1/4"x8"
20x20x250	3/4"x3/4"x10"

BLOQUES · BLOCKS · BLOCS

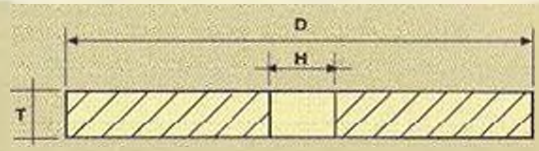


Todas las medidas hasta MAX.
All dimensions up to MAX.
Toutes les dimensions jusqu'à MAX

250x50x500

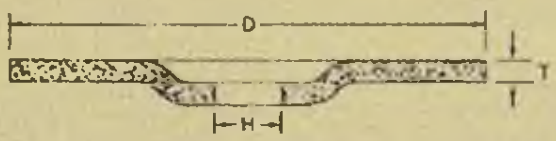
TABLA GENERAL DE VELOCIDADES APLICABLES A ESTAS MUELAS
GENERAL SPEED TABLE FOR THIS KIND OF WHEELS
TABLEAU GENERAL DE VITESSE POUR CES MEULES

MUELAS RECTAS Y CON FORMA
STRAIGHT & SHAPED WHEELS
MEULES PLATES ET AVEC FORME



M.S.		20	32	35	63
SFPM		4.000	6.000	7.000	12.000
Ø mm	Ø inches	RPM			
10	3/8"	38.200	61.120	66.850	120.320
13	1/2"	29.380	47.010	51.420	92.560
25	1"	15.280	24.450	26.740	48.130
32	1 1/4"	11.940	19.100	20.890	37.600
40	1 1/2"	9.550	15.280	16.710	30.080
50	2"	7.640	12.220	13.370	24.060
63	2 1/2"	6.060	9.700	10.610	19.100
80	3 1/4"	4.780	7.640	8.360	15.040
100	4"	3.820	6.110	6.680	12.030
125	5"	3.060	4.890	5.350	9.630
150	6"	2.550	4.070	4.460	8.020
180	7"	2.120	3.400	3.710	6.680
200	8"	1.910	3.060	3.340	6.020
230	9"	1.660	2.660	2.910	5.230
250	10"	1.530	2.440	2.670	4.810
300	12"	1.270	2.040	2.230	4.010
350-356	14"	1.070	1.720	1.880	3.380
400-406	16"	940	1.510	1.650	2.960
450-457	18"	840	1.340	1.460	2.630
500-508	20"	750	1.200	1.320	2.370
600-610	24"	630	1.000	1.110	1.970
650-660	26"	590	940	1.030	1.750

MUELAS DE CENTRO HUNDIDO
DEPRESSED CENTER WHEELS
MEULES À MOYEUX DÉPORTÉS



M.S.		63	80
SFPM		12.500	16.000
D x T x H mm.	D x T x H inches	RPM	
115x6,7x22,2	4 1/2"x1/4"x7/8"	10.460	13.280
125x6,7x22,2	5"x1/4"x7/8"	9.630	12.220
180x3,5x22,2	7"x1/8"x7/8"	6.680	8.490
180x6,7x22,2	7"x1/4"x7/8"	6.680	8.490
230x3,5x22,2	9"x1/8"x7/8"	5.230	6.640
230x6,7x22,2	9"x1/4"x7/8"	5.230	6.640

TABLA DE CONVERSIÓN • CONVERSION CHART • TABLEAU DE CONVERTION

MM. → INCH.

mm.	0	1	2	3	4	5	6	7	8	9	mm.
	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	
0		.03937	.07874	.11811	.15748	.19685	.23622	.27559	.31496	.35433	0
10	.39370	.43307	.47244	.51181	.55118	.59055	.62992	.66929	.70866	.74803	10
20	.78740	.82677	.86614	.90551	.94488	.98425	1.02362	1.06299	1.10236	1.14173	20
30	1.18110	1.22047	1.25984	1.29921	1.33858	1.37795	1.41732	1.45669	1.49606	1.53543	30
40	1.57480	1.61417	1.65354	1.69291	1.73228	1.77165	1.81102	1.85039	1.88976	1.92913	40
50	1.96850	2.00787	2.04724	2.08661	2.12598	2.16535	2.20472	2.24409	2.28346	2.32283	50
60	2.36220	2.40157	2.44094	2.48031	2.51968	2.55905	2.59842	2.63779	2.67716	2.71653	60
70	2.75590	2.79527	2.83464	2.87401	2.91338	2.95275	2.99212	3.03149	3.07086	3.11023	70
80	3.14960	3.18897	3.22834	3.26771	3.30708	3.34645	3.38582	3.42519	3.46456	3.50393	80
90	3.54330	3.58267	3.62204	3.66141	3.70078	3.74015	3.77952	3.81889	3.85828	3.89763	90
100	3.93700	3.97637	4.01574	4.05511	4.09448	4.13385	4.17322	4.21259	4.25196	4.29133	100
110	4.3307	4.3701	4.4094	4.4488	4.4882	4.5276	4.5669	4.6063	4.6457	4.6850	110
120	4.7244	4.7638	4.8031	4.8425	4.8819	4.9213	4.9606	5.0000	5.0394	5.0787	120
130	5.1181	5.1575	5.1969	5.2362	5.2756	5.3150	5.3543	5.3937	5.4331	5.4724	130
140	5.5118	5.5512	5.5906	5.6299	5.6693	5.7087	5.7480	5.7874	5.8268	5.8661	140
150	5.9055	5.9449	5.9843	6.0236	6.0630	6.1024	6.1417	6.1811	6.2205	6.2593	150
160	6.2992	6.3386	6.3780	6.4173	6.4567	6.4961	6.5354	6.5748	6.6142	6.6535	160
170	6.6929	6.7323	6.7717	6.8110	6.8504	6.8898	6.9291	6.9685	7.0079	7.0472	170
180	7.0866	7.1260	7.1654	7.2047	7.2441	7.2835	7.3229	7.3622	7.4016	7.4409	180
190	7.4803	7.5197	7.5591	7.5984	7.6378	7.6772	7.7165	7.7559	7.7953	7.8346	190
200	7.8740	7.9134	7.9528	7.9921	8.0315	8.0709	8.1102	8.1496	8.1890	8.2283	200
210	8.2677	8.3071	8.3465	8.3858	8.4252	8.4646	8.5039	8.5433	8.5827	8.6220	210
220	8.6614	8.7008	8.7402	8.7795	8.8189	8.8583	8.8976	8.9370	8.9764	9.0157	220
230	9.0551	9.0945	9.1339	9.1732	9.2126	9.2520	9.2913	9.3307	9.3701	9.4094	230
240	9.4488	9.4882	9.5276	9.5669	9.6063	9.6457	9.6850	9.7244	9.7638	9.8031	240
250	9.8425	9.8819	9.9212	9.9606	10.0000	10.0394	10.0787	10.1181	10.1575	10.1968	250
260	10.2362	10.2756	10.3149	10.3543	10.3937	10.4331	10.4724	10.5118	10.5512	10.5905	260
270	10.6299	10.6693	10.7086	10.7480	10.7874	10.8268	10.8661	10.9055	10.9449	10.9842	270
280	11.0236	11.0630	11.1023	11.1417	11.1811	11.2205	11.2598	11.2992	11.3386	11.3779	280
290	11.4173	11.4567	11.4960	11.5354	11.5748	11.6142	11.6536	11.6929	11.7323	11.7716	290
300	11.8110	11.8504	11.8898	11.9291	11.9685	12.0079	12.0472	12.0866	12.1260	12.1653	300

INCH. → MM.

Inches		0	1	2	3	4	5	6	7	8	9	10	11	12
		mm.	25.400	50.800	76.200	101.600	127.000	152.400	177.800	203.200	228.600	254.000	279.400	304.800
1/64	.015625	0.397	25.797	51.197	76.597	101.997	127.397	152.797	178.197	203.597	228.997	254.397	279.797	305.197
1/32	.03125	0.794	26.194	51.594	76.994	102.394	127.794	153.194	178.594	203.994	229.394	254.794	280.194	305.594
1/16	.0625	1.583	26.988	52.388	77.788	103.188	128.588	153.588	179.388	204.788	230.188	255.588	280.988	306.388
3/32	.09375	2.381	27.781	53.181	78.581	103.981	129.381	154.781	180.181	205.581	230.981	256.381	281.781	307.181
1/8	.125	3.175	28.575	53.975	79.375	104.775	130.175	155.575	180.975	206.375	231.775	257.175	282.575	307.975
5/32	.15625	3.969	29.369	54.769	80.169	105.569	130.969	156.369	181.769	207.169	323.569	257.969	283.369	308.769
3/16	.1875	4.763	30.163	55.563	80.963	106.363	131.763	157.163	182.563	207.963	233.363	258.763	284.163	309.563
7/32	.21875	5.556	30.956	56.356	81.756	107.156	132.556	157.956	183.356	208.756	234.156	259.556	284.956	310.356
1/4	.25	6.350	31.750	57.150	82.550	107.950	133.350	158.750	184.150	209.550	234.950	260.350	285.750	311.150
9/32	.28125	7.144	32.544	57.944	83.344	108.744	134.144	159.544	184.944	210.344	235.744	261.144	286.544	311.944
5/16	.3125	7.938	33.338	58.738	84.138	109.538	134.938	160.338	185.738	211.138	236.538	261.938	287.338	312.738
11/32	.34375	8.731	34.131	59.531	84.931	110.331	135.731	161.131	186.531	211.931	237.331	262.731	288.131	313.531
3/8	.375	9.525	34.925	60.325	85.725	111.125	136.525	161.925	187.325	212.725	238.125	263.525	288.925	314.325
13/32	.40625	10.319	35.719	61.119	86.519	111.919	137.319	162.719	188.119	213.519	238.919	264.319	289.719	315.119
7/16	.4375	11.113	36.513	61.913	87.313	112.713	138.113	163.513	188.913	214.313	239.713	265.113	290.513	315.913
15/32	.46875	11.906	37.306	62.706	88.106	113.506	138.906	164.306	189.706	215.106	240.506	265.906	291.306	316.706
1/2	.50	12.700	38.100	63.500	88.900	114.300	139.700	165.100	190.500	215.900	241.300	266.700	292.100	317.500
17/32	.53125	13.494	38.894	64.294	89.694	115.094	140.494	165.894	191.294	216.694	242.094	267.494	292.894	318.294
9/16	.5625	14.288	39.688	65.088	90.488	115.888	141.288	166.688	192.088	217.488	242.888	268.288	293.688	319.088
19/32	.59375	15.081	40.481	65.881	91.281	116.681	142.081	167.481	192.881	218.281	243.681	269.081	294.481	319.881
5/8	.625	15.875	41.275	66.675	92.075	117.475	142.875	168.275	193.675	219.075	244.475	269.875	295.275	320.675
21/32	.65625	16.669	42.069	67.469	92.869	118.269	143.669	169.069	194.469	219.869	245.269	270.669	296.069	321.469
11/16	.6875	17.463	42.863	68.263	93.663	119.063	144.463	169.863	195.263	220.663	246.063	271.463	296.863	322.263
23/32	.71875	18.256	43.656	69.056	94.456	119.856	145.256	170.656	196.056	221.456	246.856	272.256	297.656	323.056
3/4	.75	19.050	44.450	69.850	95.250	120.650	146.050	171.450	196.850	222.250	247.650	273.050	298.450	323.850
25/32	.78125	19.844	45.244	70.644	96.044	121.444	146.844	172.244	197.644	223.044	248.444	273.844	299.244	324.644
13/16	.8125	20.638	46.038	71.438	96.838	122.238	147.638	173.038	198.438	223.838	249.238	274.638	300.038	325.438
27/32	.84375	21.431	46.831	72.231	97.631	123.031	148.431	173.831	199.231	224.631	250.031	275.431	300.831	326.231
7/8	.875	22.225	47.625	73.025	98.425	123.825	149.225	174.625	200.025	225.425	250.825	276.225	301.625	327.025
29/32	.90625	23.019	48.419	73.819	99.219	124.619	150.019	175.419	200.819	226.219	251.619	277.019	302.419	327.819
15/16	.9375	23.813	49.213	74.613	100.013	125.413	150.813	176.213	201.613	227.013	252.413	277.813	303.213	328.613
31/32	.96875	24.606	50.006	75.406	100.806	126.206	151.606	177.006	202.406	227.806	253.206	278.606	304.006	329.406