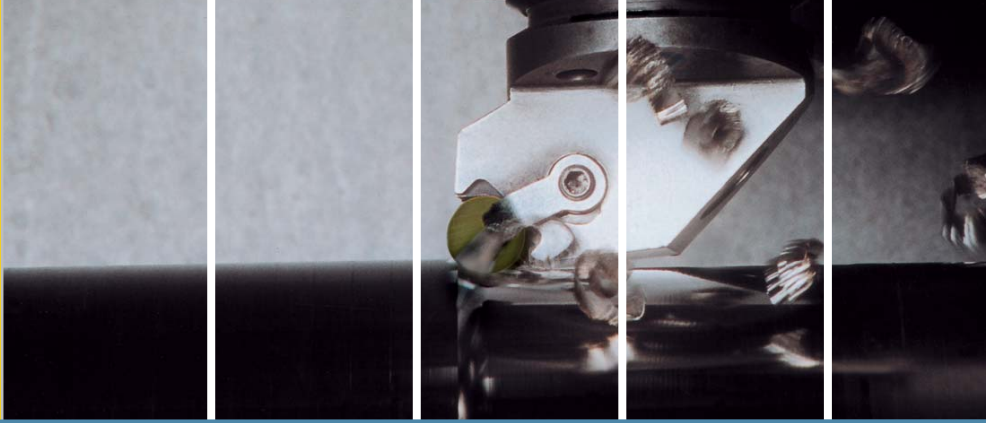
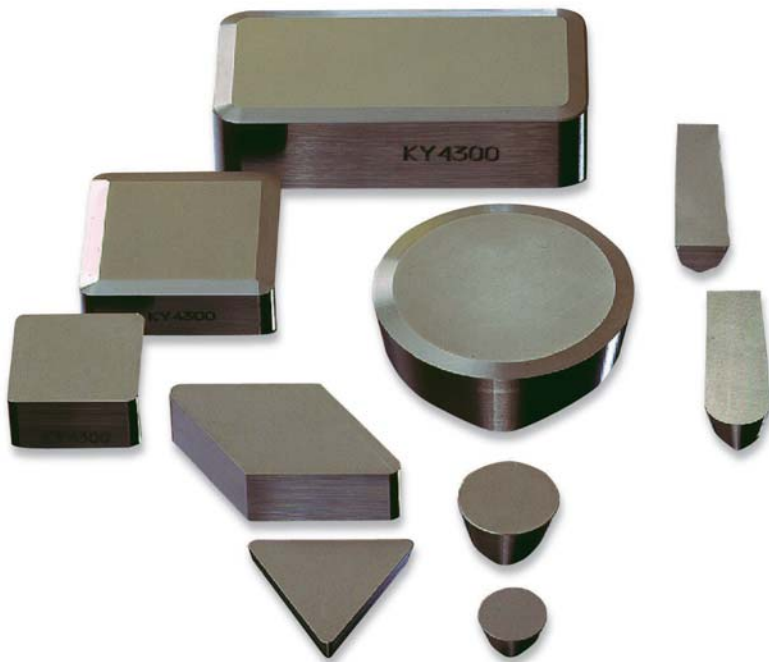


Engineering Your  
Competitive Edge  
**IN TURNING**



**Now Available in North America...**  
**Kennametal's KYON<sup>®</sup> 4300 Whisker-Reinforced Ceramic Turning Grade**

**Run at Faster Speeds for Improved Productivity!**



***...specifically engineered for superior performance in high-temp alloy, steel, and cast iron applications!***

- Whisker-reinforced for added tensile strength and toughness!
- Delivers excellent surface finish — at higher speeds!
- Increase productivity by up to 40%!

Distributed by:

Kennametal will significantly improve your turning performance!

***Let us prove it.***

 **KENNAMETAL<sup>®</sup>**  
Engineering Your Competitive Edge

## Markets and Applications

### Ideally suited for:

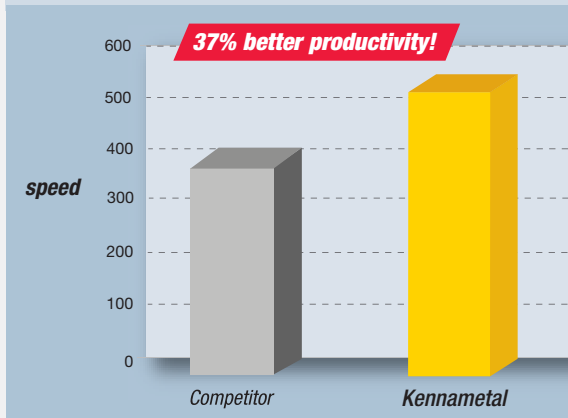
- Machining high-temperature alloys such as Inconel, Stellite, Waspaloy, and Hastelloy commonly found in Aerospace applications.
- Turning and shaping chilled rolls with casting crust or heavily worn rolling surfaces commonly found in roll turning applications in the Steel industry.
- Machining gray cast iron in the production of alloyed brake disks and other Automotive industry components.

### Featured Application:

#### Machining a Plunger

Operation:	Interrupted turning of cast plunger
Customer:	General machining manufacturer
Workpiece:	Plunger
Material:	#12 Stellite (Co-based alloy)
Solution:	KY4300 RNG45T0420 Insert (RNGN 120700 T01020)
Results:	37% increase in speed

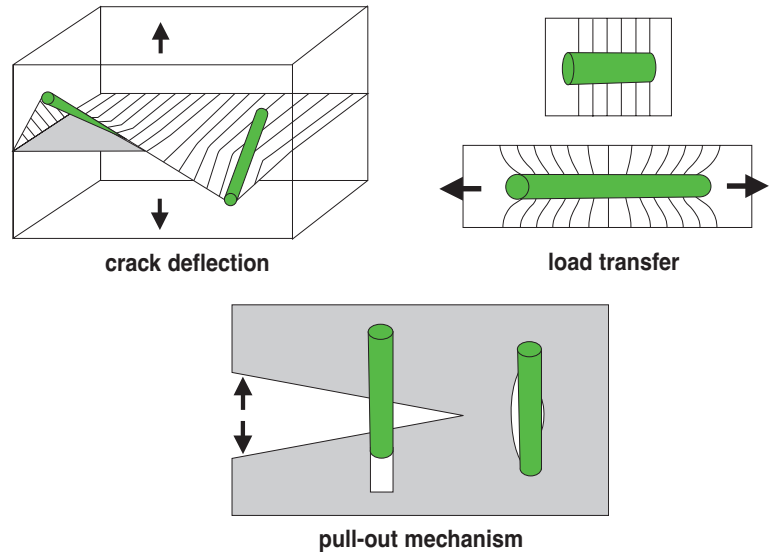
	COMPETITOR	KENNAMETAL
grade:	Whisker Ceramic	KY4300
insert ANSI (ISO):	RNG45T0420 (RNGN 120700 T01020)	RNG45T0420 (RNGN 120700 T01020)
speed:	400 sfm (122 m/min)	550 sfm (168 m/min)
feed:	.004 ipr (0,10mm)	.004 ipr (0,10mm)
depth:	.050" (1,3mm)	.050" (1,3mm)
coolant:	Dry	Dry
parts per edge:	1	1



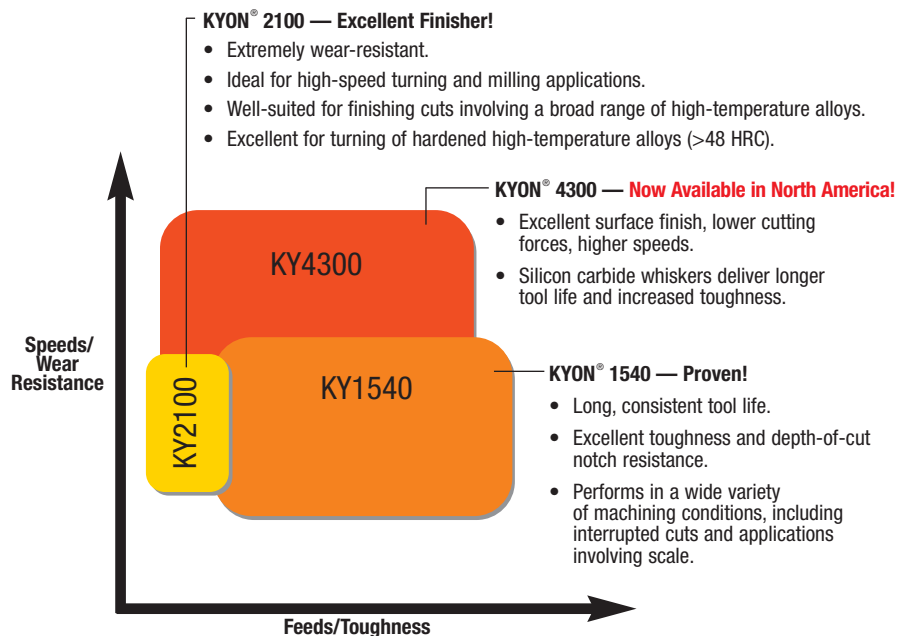
## Engineering Your Competitive Edge

Kennametal's new KY4300™ inserts are composed of aluminum oxide (Al<sub>2</sub>O<sub>3</sub>) reinforced with silicon carbide whiskers to provide a ceramic composite with high mechanical strength and fracture toughness.

Three different toughening mechanisms can be found:



## Grade Information





Aerospace



Automotive



General Engineering

## Recommended Cutting Speeds

### Iron-Based, Cobalt-Based, and Nickel-Based Alloys

Iron-Based, Heat-Resistant Alloys (135 – 320 HB) ( $\leq 34$  HRC)  
 Wrought: A-286, Discaloy, Incoloy 801, N-155, 16-25-6, 19-9 DL Cast: ASTM A297, A351, A608, A567

KENNA PERFECT® material group	grade	speed — sfm (m/min)												starting conditions $\diamond$		
		50 (15)	150 (45)	250 (75)	350 (105)	450 (140)	550 (170)	650 (200)	750 (230)	850 (260)	950 (290)	1050 (350)	1150 (350)	1250 (380)	sfm	m/min
S 1	KY4300														500	150
	KY1540														550	170
	KY2100														600	185

Cobalt-Based, Heat-Resistant Alloys (150 – 425 HB) ( $\leq 45$  HRC)  
 Wrought: AiResist 213, Haynes 25 (L605), Haynes 188, J-1570, Stellite Cast: AiResist 13, Haynes 21, MAR-M302, MAR-M509, NASA Co-W-Re, WI-52

KENNA PERFECT® material group	grade	speed — sfm (m/min)												starting conditions $\diamond$		
		50 (15)	150 (45)	250 (75)	350 (105)	450 (140)	550 (170)	650 (200)	750 (230)	850 (260)	950 (290)	1050 (350)	1150 (350)	1250 (380)	sfm	m/min
S 2	KY4300														525	160
	KY1540														600	185
	KY2100														650	200

Nickel-Based, Heat-Resistant Alloys (140 – 475 HB) ( $\leq 48$  HRC)  
 Astroloy, Hastelloy B/C/C-276/X, Inconel 601/617/625/700/706/718, IN102, Incoloy 901, MAR-M200, Nimonic, Rene 41, Udimet, Waspaloy, Monel

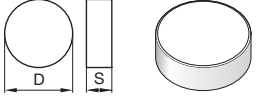
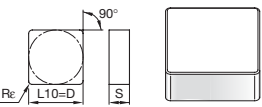
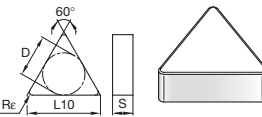
KENNA PERFECT® material group	grade	speed — sfm (m/min)												starting conditions $\diamond$		
		50 (15)	150 (45)	250 (75)	350 (105)	450 (140)	550 (170)	650 (200)	750 (230)	850 (260)	950 (290)	1050 (350)	1150 (350)	1250 (380)	sfm	m/min
S 3	KY4300														650	200
	KY1540														700	215
	KY2100														750	230

## Ordering Information

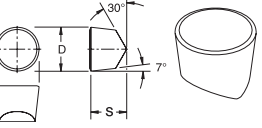
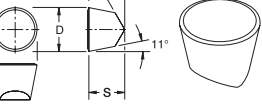
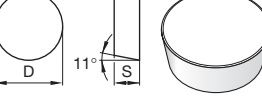
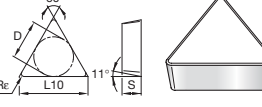
### Kendex® Negative Inserts

Diagram	order number	ANSI catalog number	ISO catalog number	D		L10		S		Re		grade KY4300
				inch	mm	inch	mm	inch	mm	inch	mm	
	1203552	CNG432T0420	CNGN120408T01020	1/2	12,70	.51	12,90	3/16	4,76	1/32	0,8	●
	1203555	CNG433T0420	CNGN120412T01020	1/2	12,70	.51	12,90	3/16	4,76	3/64	1,2	●
	1203561	CNG434T0420	CNGN120416T01020	1/2	12,70	.51	12,90	3/16	4,76	1/16	1,6	●
	1203564	CNG452T0420	CNGN120708T01020	1/2	12,70	.51	12,90	5/16	7,94	1/32	0,8	●
	1203569	CNG453T0420	CNGN120712T01020	1/2	12,70	.51	12,90	5/16	7,94	3/64	1,2	●
	1203576	CNG454T0420	CNGN120716T01020	1/2	12,70	.51	12,90	5/16	7,94	1/16	1,6	●
	1203580	DNG452T0420	DNGN150708T01020	1/2	12,70	.61	15,50	5/16	7,94	1/32	0,8	●
	1203586	DNG453T0420	DNGN150712T01020	1/2	12,70	.61	15,50	5/16	7,94	3/64	1,2	●
	1203591	DNG454T0420	DNGN150716T01020	1/2	12,70	.61	15,50	5/16	7,94	1/16	1,6	●
	1203596	ENG452T0420	ENGN130708T01020	1/2	12,70	.52	13,15	5/16	7,94	1/32	0,8	●
	1203601	ENG453T0420	ENGN130712T01020	1/2	12,70	.52	13,15	5/16	7,94	3/64	1,2	●

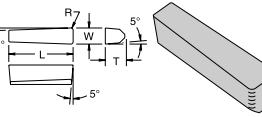
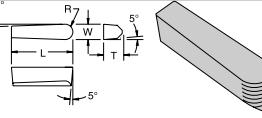
### Kendex® Negative Inserts (continued)

order number	ANSI catalog number	ISO catalog number	D		L10		S		Re		grade	
			inch	mm	inch	mm	inch	mm	inch	mm		
	1203612	RNG32T0420	RNGN090300T01020	3/8	9,53	-	-	1/8	3,18	-	-	●
	1203616	RNG43T0420	RNGN120400T01020	1/2	12,70	-	-	3/16	4,76	-	-	●
	1203622	RNG45E	RNGN120700E	1/2	12,70	-	-	5/16	7,94	-	-	●
	1203627	RNG45T0420	RNGN120700T01020	1/2	12,70	-	-	5/16	7,94	-	-	●
	1616544	RNG45T4015	RNGN120700T10015	1/2	12,70	-	-	5/16	7,94	-	-	●
	1203633	RNG45T6015	RNGN120700T15015	1/2	12,70	-	-	5/16	7,94	-	-	●
	1219685	RNG45T8015	RNGN120700T20015	1/2	12,70	-	-	5/16	7,94	-	-	●
	1203637	RNG55T8015	RNGN150700T20015	5/8	15,88	-	-	5/16	7,94	-	-	●
	1203642	RNG65T8015	RNGN190700T20015	3/4	19,05	-	-	5/16	7,94	-	-	●
	1203645	RNG85T8015	RNGN250700T20015	1	25,40	-	-	5/16	7,94	-	-	●
	1203651	SN322T0420	SNGN090308T01020	3/8	9,53	.38	9,53	1/8	3,18	1/32	0,8	●
	1203655	SN432T0420	SNGN120408T01020	1/2	12,70	.50	12,70	3/16	4,76	1/32	0,8	●
	1203660	SN433T0420	SNGN120412T01020	1/2	12,70	.50	12,70	3/16	4,76	3/64	1,2	●
	1203665	SN434T0420	SNGN120416T01020	1/2	12,70	.50	12,70	3/16	4,76	1/16	1,6	●
	1203672	SN452T0420	SNGN120708T01020	1/2	12,70	.50	12,70	5/16	7,94	1/32	0,8	●
	1203676	SN453T0420	SNGN120712T01020	1/2	12,70	.50	12,70	5/16	7,94	3/64	1,2	●
	1203681	SN454T0420	SNGN120716T01020	1/2	12,70	.50	12,70	5/16	7,94	1/16	1,6	●
	1215345	SN455T2020	SNGN120720T05020	1/2	12,70	.50	12,70	5/16	7,94	5/64	2,0	●
	1203684	SN553T8015	SNGN150712T20015	5/8	15,88	.63	15,88	5/16	7,94	3/64	1,2	●
	1203688	SN554T8015	SNGN150716T20015	5/8	15,88	.63	15,88	5/16	7,94	1/16	1,6	●
	1203693	SN654T8015	SNGN190716T20015	3/4	19,05	.75	19,05	5/16	7,94	1/16	1,6	●
	1215292	SN655T4015	SNGN190720T10015	3/4	19,05	.75	19,05	5/16	7,94	5/64	2,0	●
	1203697	SN656T8015	SNGN190724T20015	3/4	19,05	.75	19,05	5/16	7,94	3/32	2,4	●
	1203713	TNG332T0420	TNGN160408T01020	3/8	9,53	.65	16,50	3/16	4,76	1/32	0,8	●
	1203717	TNG333T0420	TNGN160412T01020	3/8	9,53	.65	16,50	3/16	4,76	3/64	1,2	●
	1203728	TNG352T0420	TNGN160708T01020	3/8	9,53	.65	16,50	5/16	7,94	1/32	0,8	●

### Kendex® Positive Inserts

order number	ANSI catalog number	ISO catalog number	D		L10		S		Re		grade	
			inch	mm	inch	mm	inch	mm	inch	mm		
	1198494	RCGV23T0420	RCGX060400T01020	1/4	6,35	-	-	3/16	4,76	-	-	●
	1198496	RCGV35T0420	RCGX090700T01020	3/8	9,53	-	-	5/16	7,94	-	-	●
	1198499	RCGV45T0420	RCGX120700T01020	1/2	12,70	-	-	5/16	7,94	-	-	●
	1198500	RCGV45T6015	RCGX120700T15015	1/2	12,70	-	-	5/16	7,94	-	-	●
	1198502	RCGV565T8015	RCGX151000T20015	5/8	15,88	-	-	.394	10,00	-	-	●
	1198504	RCGV665T8015	RCGX191000T20015	3/4	19,05	-	-	.394	10,00	-	-	●
	1198506	RCGV812T8015	RCGX251200T20015	1	25,40	-	-	1/2	12,70	-	-	●
	1198508	RPGV23T0420	RPGX060400T01020	1/4	6,35	-	-	3/16	4,76	-	-	●
	1198509	RPGV35T0420	RPGX090700T01020	3/8	9,53	-	-	5/16	7,94	-	-	●
	1198510	RPGV45T0420	RPGX120700T01020	1/2	12,70	-	-	5/16	7,94	-	-	●
	1198511	RPG32T0220	RPGN090300T00520	3/8	9,53	-	-	1/8	3,18	-	-	●
	1203744	TPG322T0220	TPGN160308T00520	3/8	9,53	.65	16,50	1/8	3,18	1/32	0,8	●

### Kendex® Deep Grooving Inserts

order number	ANSI catalog number	ISO catalog number	W		L1		S		RR		grade	
			inch	mm	inch	mm	inch	mm	inch	mm		
	1208434	KGF41251E	KGF12031804E	.125	3,18	0.50	12,70	0.18	4,5	0.02	0,4	●
	1208464	KGF62191E	KGF19055604E	.219	5,56	0.75	19,05	0.24	6,1	0.02	0,4	●
	1208470	KGF62502E	KGF19063508E	.250	6,35	1.00	25,4	0.33	8,3	0.03	0,8	●
	1208484	KGF83122E	KGF25079408E	.313	7,94	1.00	25,4	0.33	8,3	0.03	0,8	●
	1208486	KGF83124E	KGF25079416E	.313	7,94	1.00	25,4	0.33	8,3	0.06	1,6	●
	1208495	KGF83441E	KGF25087304E	.344	8,73	1.00	25,4	0.33	8,3	0.02	0,4	●
	1208504	KGF83752E	KGF25095208E	.375	9,52	1.00	25,4	0.33	8,3	0.03	0,8	●
	1208515	KGR4156E	KGR12039720E	.156	3,97	0.50	12,7	0.18	4,5	0.08	2,0	●
	1208526	KGR4187E	KGR12047624E	.187	4,76	0.50	12,7	0.18	4,5	0.09	2,4	●
	1208533	KGR6219E	KGR19055628E	.219	5,56	0.75	19,05	0.24	6,1	0.11	2,8	●
	1624330	KGR6219T0820	KGR19055628T02020	.219	5,56	0.75	19,05	0.24	6,1	0.11	2,8	●
	1208539	KGR6250E	KGR19063532E	.250	6,35	0.75	19,05	0.24	6,1	0.13	3,2	●
	1208545	KGR8312E	KGR25079440E	.313	7,94	1.00	25,4	0.33	8,3	0.16	4,0	●