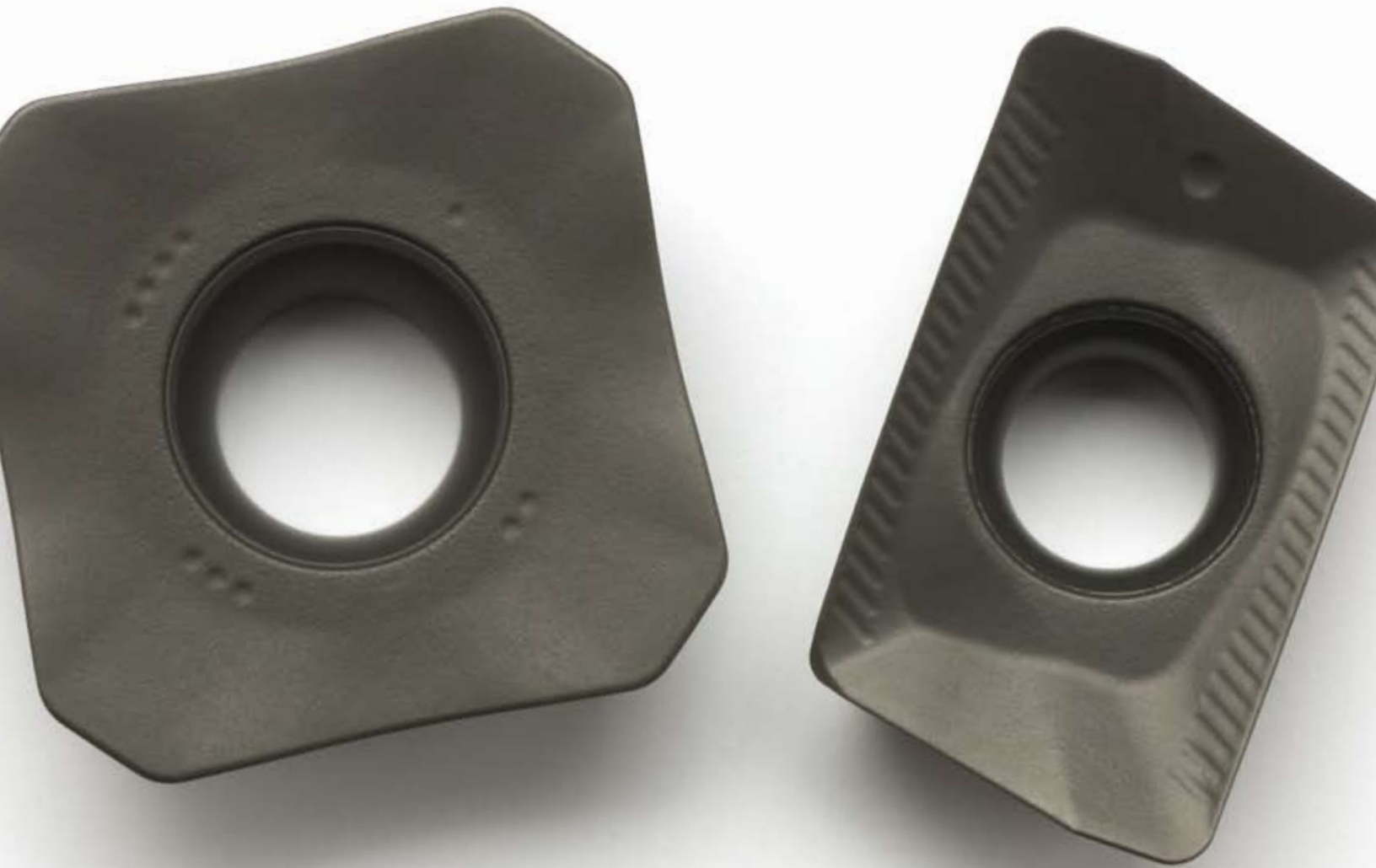


# **DURATOMIC™**

## **NEW MILLING GRADES 2008**



**MP1500 • MP2500 • MK1500 • MK3000**

**ALSO INCLUDES THE PVD GRADES:  
MK2000 & MH1000**

**SECO** 



# SIX NEW GRADES FOR ALL YOUR MILLING APPLICATIONS

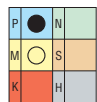
Seco is introducing a full range of powerful new grades for milling especially designed to satisfy the need for longer tool life, increased reliability and more flexible production.

For the broad range of ISO P, M and K applications, Seco offers four new Duratomic grades that stand up to the heat of both normal and high speed machining — MP2500 and MP1500 for steel and stainless steel, and MK1500 and MK3000 for cast iron.

## A COMPLETE PROGRAM FOR STEEL, STAINLESS STEEL AND CAST IRON

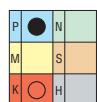
To make the milling grade program complete, Seco also introduces two new PVD coated grades for optimal performance in medium machining of cast iron and high speed machining of hardened steels: MK2000 for cast iron and MH1000 for hardened steel.

### MP2500 DURATOMIC™



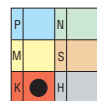
MP2500 is the universal grade and first choice for milling in steel and stainless steel applications. It has the widest application area of all the new grades and is also suitable for unmanned production.

### MP1500 DURATOMIC™



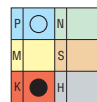
MP1500 is an extremely wear resistant grade for milling in harder and more difficult steel. It is ideally suited for milling harder steels like tool steels and even difficult types of cast iron.

### MK1500 DURATOMIC™



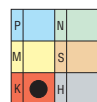
MK1500 is the first choice for general purpose machining of various types of cast iron. It is a highly wear resistant grade ideal for unmanned production in gray and ductile cast irons.

### MK3000 DURATOMIC™



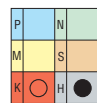
MK3000 is a very tough grade suitable for face milling, roughing and other difficult operations in both gray and ductile cast irons. It can also be used for milling in steel using negative inserts.

### MK2000



MK2000 is designed for square shoulder and disc milling of ductile cast iron applications with small radial engagement.

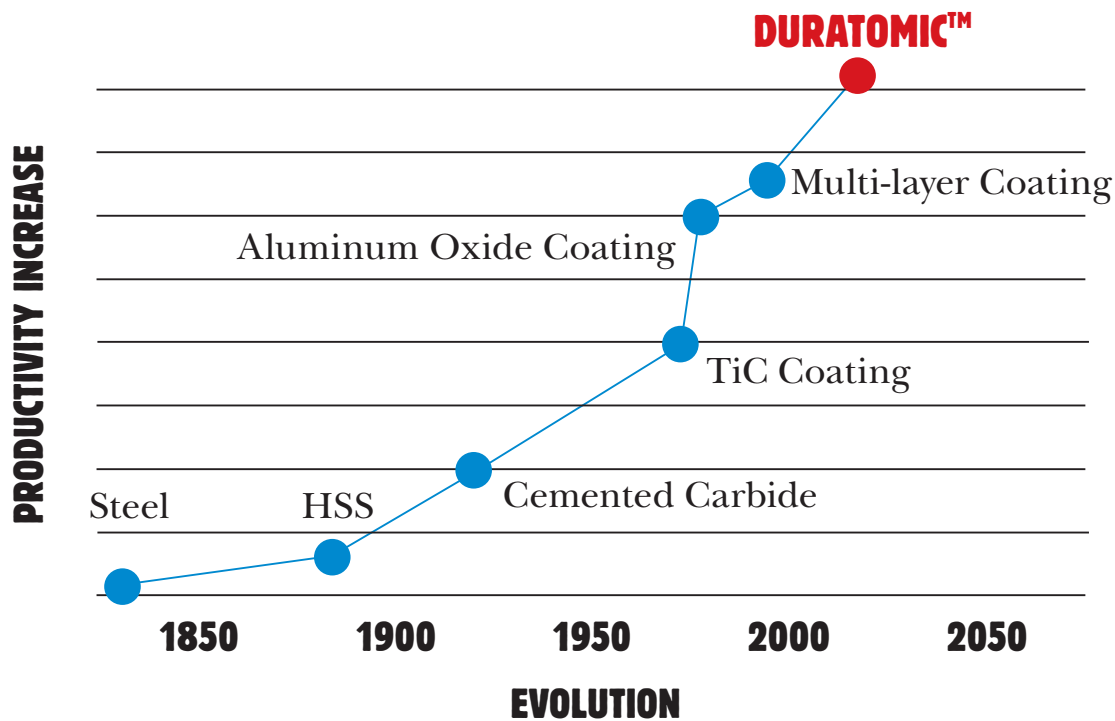
### MH1000



MH1000 is an extra hard grade for milling hardened steels (steels hardened to more than 50 HRC). It can also be used for finishing operations in gray cast irons.

# DURATOMIC™

## EVOLUTION BY SECO



### A NEW TECHNOLOGY – A NEW ERA FOR EXCEPTIONAL GRADES

Duratonic is a new insert coating technology from Seco Tools that allows us to design grades for optimal performance in all areas of metal cutting.

We have explored almost every possibility down to the atomic level in order to increase toughness and wear resistance in our coated grades. The improved mechanical and thermal properties are far beyond the capabilities of any existing grade on the market.



**WHEN OPPOSITES ATTRACT: MAXIMUM PRODUCTIVITY**

The Duratomic coating technology offers a new level of toughness and wear resistance in the same grade, with more versatile grades, a wider range of applications and greater flexibility in cutting data.

This gives you higher speeds, increased cutting data, a longer and more predictable tool life, a wider machining window and dramatically increased productivity ...

# MP2500 – FIRST CHOICE FOR STEEL & STAINLESS STEEL

## SECURITY AND RELIABILITY FOR UNMANNED PRODUCTION

MP2500 has a unique combination of wear resistance and toughness and is the perfect grade when it comes to security and reliability. It is the ideal grade for unmanned production where long and predictable tool life are important issues.

MP2500 has the widest application area of all the new milling grades and is therefore our first choice for general steel milling and is suitable for face, square shoulder and disc milling.

Thanks to its metallurgical characteristics, MP2500 is also a very good choice for milling stainless steels. MP2500 can supply longer tool life and higher cutting speeds resulting in greater productivity and less cost per component.

The Duratomic-coated MP2500 is a perfect grade for customers seeking a simple and reliable solution.

## MP2500 – DURATOMIC™

P	●	N	
M	○	S	
K		H	

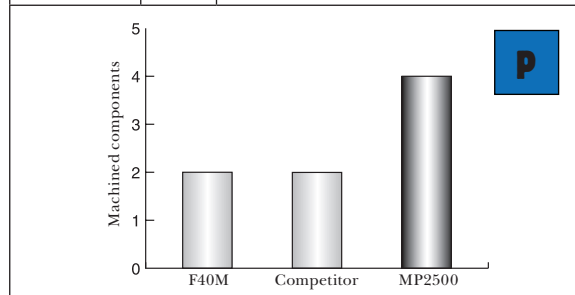
- First choice for general machining in steel.
- First choice for finish to medium finishing in stainless steel.

## AVAILABLE FOR:

Face, Square shoulder, Disc,  
High Feed and Copy milling.

## SMG 3 – MP2500

<b>Operation</b>	Contouring	
<b>Material</b>	ST 52-3, SMG 3	
<b>Cutter</b>	R220.69-0050-12-7A Competitor	
<b>Inserts</b>	XOMX120408TR-M12 Competitor	
<b>Cutting data</b>	<b>v<sub>c</sub></b>	820 spfm
	<b>f<sub>z</sub></b>	0.010"/tooth
	<b>a<sub>p</sub></b>	0.354"
	<b>a<sub>e</sub></b>	0.040-0.197"
	<b>D</b>	1.968"
	<b>Coolant</b>	No



# MP1500 – EXTREME WEAR RESISTANCE FOR TOOL STEEL

## HIGHER CUTTING SPEEDS, EXCELLENT PERFORMANCE, MAXIMUM PRODUCTIVITY

MP1500 is an extremely hard and wear resistant grade ideally suited for milling harder steels. It has excellent performance in machining hard steels like tool steels, and is even suitable for difficult materials within the cast iron group.

Thanks to the exceptional wear resistance, MP1500 is a perfect grade for optimizing milling applications in steels where the setup is very stable.

The Duratomic-coated MP1500 is the choice for customers seeking better performance, higher throughput and increased productivity when it comes to milling harder steel.

The extreme wear resistance and the possibility of using higher cutting speed leads to higher productivity and maximum performance which in turn means more parts machined in less time.

## MP1500 – DURATOMIC™

P	●	N	
M		S	
K	○	H	

- For hard and hardened steel.
- For optimizing finishing-under stable conditions.
- For milling in difficult to machine cast iron.

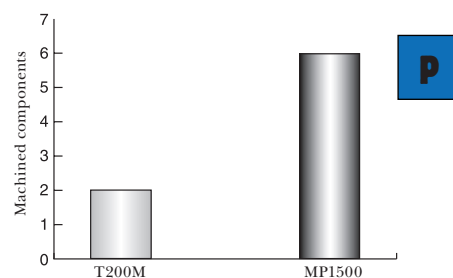
## AVAILABLE FOR:

Face, Square shoulder, Disc, High Feed and Copy milling.

## SMG 6 – MP1500

Operation	Face milling	
Component	Cutting die	
Material	X 155 CrVMo12 1, SMG 6	
Cutter	R220.53-8160-12-10	
Insert	SEMX43AFTN-M15	
Cutting data	$v_c$	490 sfpm
	$f_z$	0.008"/tooth
	$a_p$	0.080"
	$a_e$	2.756"
	$D$	6.300"
Coolant	No	

Change criteria Surface and noise  $V_b = .016"$



# MK1500 – FIRST CHOICE FOR CAST IRON

## SECURITY AND RELIABILITY FOR UNMANNED PRODUCTION IN CAST IRON

MK1500 is a highly wear resistant grade ideal for unmanned production in gray and ductile cast irons at medium to high cutting speeds. It has a very wide application area and is the first choice for general purpose machining of various grades of cast iron.

The combination of wear resistance and toughness results in higher cutting speeds and longer tool life, giving increased productivity in all areas of cast iron milling.

The Duratomic-coated MK1500 is designed for optimal wear resistance, toughness and reliability, and provides excellent performance in face, square shoulder and disc milling. It is the perfect grade for customers machining cast iron seeking improved performance and longer tool life.

## MK1500 – DURATOMIC™

P		N	
M		S	
K	●	H	

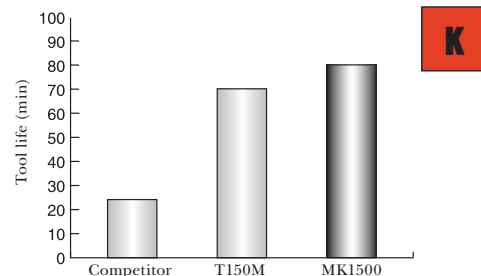
- First choice for general machining in cast iron.

## AVAILABLE FOR:

Face, Square shoulder and Disc milling.

## SMG 14 – MK1500

<b>Operation</b>	Rough shoulder milling	
<b>Component</b>	Pump housing	
<b>Material</b>	CGI, 18-22 HRC (Compact Graphite Iron), SMG14	
<b>Cutter</b>	R220.69-03.00-18.8A Competitor	
<b>Insert</b>	XOMX180608TR-M14 Competitor	
<b>Cutting data</b>	<b>v<sub>c</sub></b>	620 sfpm
	<b>f<sub>z</sub></b>	0.008"/tooth
	<b>a<sub>p</sub></b>	0.374"
	<b>a<sub>e</sub></b>	2.000"
	<b>D</b>	3.000"
	<b>Coolant</b>	No
<b>Remark</b>	MK1500 with less wear than T150M and competitor grade	



# MK3000 – TOUGH GRADE FOR DIFFICULT OPERATIONS

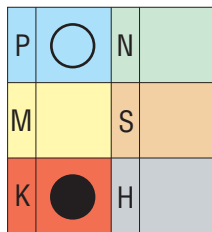
## RELIABLE PERFORMANCE IN DIFFICULT CAST IRON MACHINING

MK3000 is a very tough grade and has its main application areas in face milling, roughing and other difficult operations in gray and ductile cast iron at medium speed.

Thanks to its toughness it is ideal for difficult machining applications, and the Duratomic-coated MK3000 has also proven to offer very good performance in milling steel and stainless steel using negative inserts.

MK3000 is very suitable for operations with long tool overhangs and other unstable machining conditions. It is the perfect choice for customers looking for reliable performance in difficult cast iron machining.

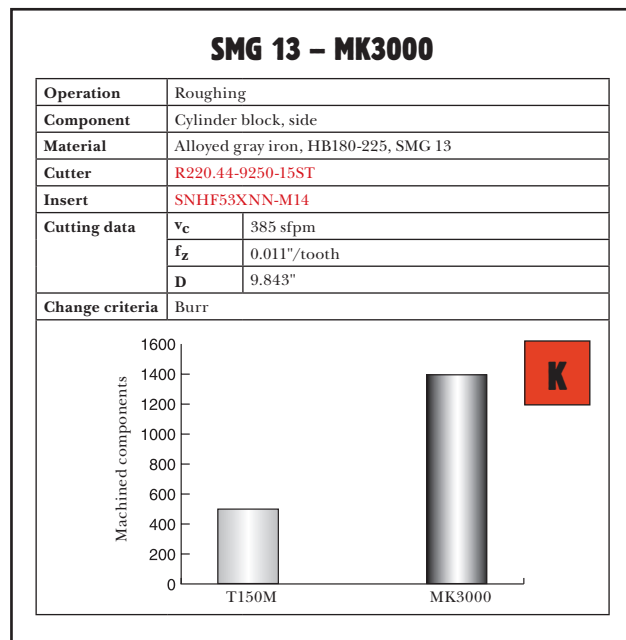
## MK3000 – DURATOMIC™



- For roughing and difficult to machine face milling applications in cast iron.
- Very good performance in milling steel and stainless steel using negative inserts.

## AVAILABLE FOR:

Face milling.



Note: Customer pursuing higher speeds, see recommendations on page 19.

# MK2000 – NEW PVD GRADE FOR CAST IRON

## THE GRADE FOR MILLING APPLICATIONS WITH SMALL RADIAL ENGAGEMENT

MK2000 is a very wear resistant PVD coated grade that features a unique edge preparation. It is an ideal grade for milling applications with small radial engagement in gray and ductile cast iron at medium speed. The grade is designed for square shoulder, helical and disc milling of ductile cast iron, and has also proven successful in face milling of ductile irons.

MK2000 is a very suitable grade for difficult milling operations with small radial engagement requiring long reach. It is also the perfect choice when small chip thickness and long tool overhang is a requirement.

## MK2000

P		N	
M		S	
K	●	H	

Suitable for difficult milling operations with small radial engagement and small chip thickness, e.g.

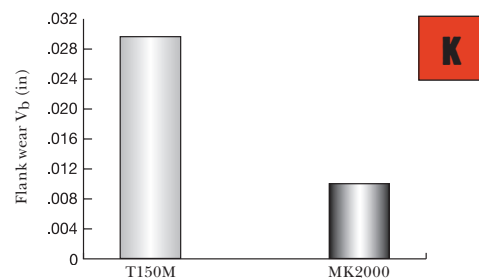
- Side milling with square shoulder milling cutters.
- Suitable for long overhangs.

## AVAILABLE FOR:

Square shoulder and Disc milling.

## SMG 13 – MK2000

<b>Operation</b>	Square shoulder milling	
<b>Component</b>	Brake collector	
<b>Material</b>	FSG 600/3, SMG 13	
<b>Cutter</b>	R220.99-0050-09-6T	
<b>Insert</b>	SONX09T308TR-M10	
<b>Cutting data</b>	<b>v<sub>c</sub></b>	820 sfpm
	<b>f<sub>z</sub></b>	0.005"/tooth
	<b>a<sub>p</sub></b>	0.080-0.120"
	<b>a<sub>e</sub></b>	0.787-1.380"
	<b>D</b>	1.968"
<b>Coolant</b>	Yes	
<b>Change criteria</b>	70 components	
<b>Remark</b>	Chipping of T150M	



# MH1000 – NEW PVD GRADE FOR HARDENED STEELS

## EXCELLENT FINISH QUALITY

MH1000 is an extra hard grade intended for high speed milling of hardened steels. It is our hardest milling grade and especially designed for steels hardened to more than 50 HRC.

MH1000 is a very wear resistant PVD coated grade for improved and optimal edge quality and also the first choice for milling applications in hardened steels.

MH1000 has also proven to perform very well in finishing operations in gray cast iron. It produces an excellent surface finish in both hardened materials and gray cast iron.

## MH1000

P		N	
M		S	
K	○	H	●

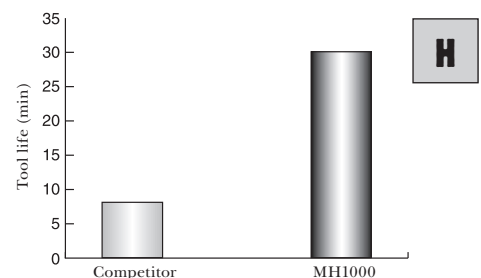
- For milling in hard and hardened steels.
- Also for finishing in gray cast iron.
- Excellent finish quality.

## AVAILABLE FOR:

High Feed and Copy milling.

## SMG 7 – MH1000

Operation	Profiling – Roughing			
Component	Crank shaft die			
Material	Nitrated 60 -64 HRC , SMG 7			
Cutter	R217.29-2525.3-05.3.050/ Competitor			
Insert	RDHW 10T3MOT-MD06/ Competitor			
Cutting data	<b>MH1000</b>		<b>Competitor grade</b>	
	$v_c$	492 sfpm	$v_c$	705 sfpm
	$f_z$	0.020"/tooth	$f_z$	0.016"/tooth
	$v_f$	110 in/min	$v_f$	110 in/min
	$a_p$	0.020"	$a_p$	0.020"
	$a_e$	0.708"	$a_e$	0.708"
	Coolant	Air		Coolant



# THE NEWCOMERS IN ACTION

The outstanding performance achieved with the new grades is the result of excellent balance between toughness and wear resistance, which leads to excellent versatility and reliability. This, in combination with our modern and flexible cutters, leads to highly increased productivity in every area of milling.

## FACE MILLING

QuattroMill™, Seco's family of 45° lead face mills, provides an easy way to increase productivity across the range of face milling applications, and better economy because of its highly-positive rake angle.

For operational versatility and the economy of eight cutting edges per insert, Seco's Octomill® offers the first eight-sided insert for face milling. QuattroMill, Octomill and other face mills will be available with MK1500, MK2000, MK3000, MP1500 and MP2500 inserts.

## SQUARE SHOULDER AND HELICAL MILLING

The comprehensive Turbo square shoulder milling family is ideal for applications such as side milling, as well as ramping, slotting, contouring, plunging, pocket milling, and circular or helical interpolation in every material.

From the 6 mm Nano Turbo® to the 18 mm Power Turbo™, Seco delivers efficient, free cutting performance and the productivity of high metal removal rates.

Mini Square™, Seco's line of square shoulder endmills, offers the economy of four cutting edges per insert.

Turbo, Mini Square, and other square shoulder and helical cutter inserts will be available in MK1500, MK2000, MP1500 and MP2500.



### **COPY MILLING**

For a broad range of reliable cavity milling solutions using the strong geometry of round inserts, Seco offers a range of button cutters, available in grades MK2000, MP1500, MP2500 and MH1000.

### **PLUNGE MILLING**

Plunge mills transfer cutting forces axially, minimizing vibration and deflection and producing a high quality finish and superb accuracy.

Seco plunge mills are available in many different configurations, including versions that use the unique XO.. Turbo insert for high metal removal applications.

Plunge mill inserts will be available in grades MK1500, MP1500, MP2500 and MK2000 (XOMX type of inserts).

### **DISC MILLING**

Seco offers a comprehensive range of accurate and durable disc milling and slotting solutions for a wide range of slotting, backfacing, circular interpolation, circlip grooving, and trochoidal T-slotting operations.

Seco discmills will be available with MK1500, MK2000, MP1500 and MP2500 inserts.

### **HIGH FEED MILLING**

Seco's high-feed cutters use a unique insert to thin the chip in low depth of cut, very high feed applications, maximizing productivity with high metal removal rates.

High feed milling inserts will be available in MK2000, MP1500, MP2500 and MH1000.





# THE BEST GRADES ALSO NEED THE BEST TOOLS

Seco provides you with well proven and reliable tools for all general applications.

- QuattroMill™ and Hexamill® for face milling
- Turbo range for square shoulder and slot milling
- Copy milling with round inserts
- Plunge milling cutters

The newly introduced three cutter families for face milling (mainly aimed at cast iron machining) in combination with Duratomic grades provide outstanding tool life and performance including finishing applications.



**R220.48** - Double Octomill® an economical insert with 16 cutting edges. Versatile cutter also for machining steel. Both roughing and finishing applications.



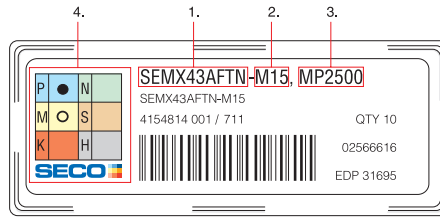
**R220.44** - Cutter for high metal removal rate in cast iron without limitations in stability and machine power.



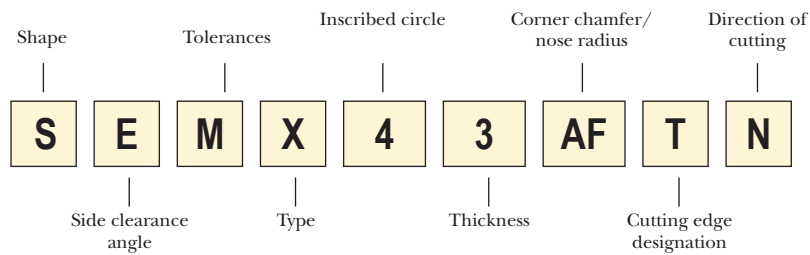
**R220.88** - Cutter developed for applications to machine square shoulder component walls also excellent for use in unstable conditions.

# NEW LABEL ON INSERT BOXES

SECOLOGIC - SECO'S NEW DESIGNATION SYSTEM,  
DESCRIBING INSERT GEOMETRY AND APPLICATION AREA

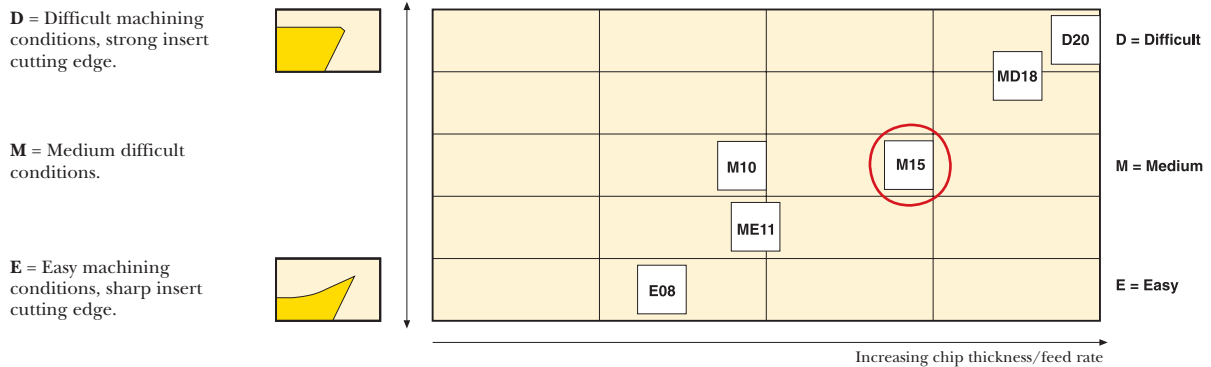


## 1. CODE KEY FOR INSERTS

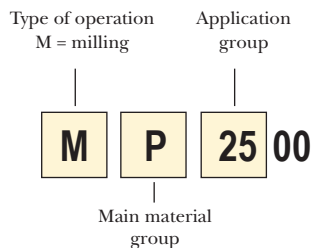


## 2. DESIGNATION SYSTEM

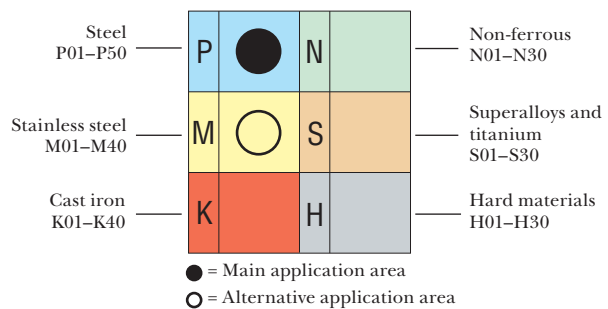
FIELDS OF APPLICATION FOR THE VARIOUS INSERT GEOMETRIES



## 3. INSERT GRADE - CODE KEY



## 4. APPLICATION AREA



# GUIDE – INSERT GRADES

## MP1500 – DURATOMIC™

P	●	N	
M	●	S	
K	○	H	

- For hard and hardened steel.
- For optimizing finishing - under stable conditions.
- For milling in difficult to machine cast iron.

## MP2500 – DURATOMIC™

P	●	N	
M	○	S	
K	●	H	

- First choice for general machining in steel.
- First choice for finish to medium finishing in stainless steel.

## MK1500 – DURATOMIC™

P		N	
M	●	S	
K	●	H	

- First choice for general machining in cast iron.

## MK3000 – DURATOMIC™

P	○	N	
M	●	S	
K	●	H	

- For roughing and difficult to machine face milling applications in cast iron.
- Very good performance in milling steel and stainless steel using negative inserts.

## MK2000

P		N	
M	●	S	
K	●	H	

- Suitable for difficult milling operations with small radial engagement and small chip thickness, e.g.
- Side milling with square shoulder milling cutters.
- Suitable for long overhangs.

## MH1000

P		N	
M	●	S	
K	○	H	●

- For milling in hard and hardened steels.
- Also for finishing in gray cast iron.
- Excellent finish quality.

Face milling	Square shoulder and slot milling	Disc milling	HFM (High Feed Machining)	Copy milling
●	●	●	●	●
●	●	●	●	●
●	●	●		
●				
●				
			●	●

# CUTTING SPEED RANGE

## MP1500 – DURATOMIC™

	Seco material group	Face milling	Square shoulder and slot milling	Disc milling	HFM	Copy milling
		Recommended cutting speed, $v_c$ (sfpm)				
Steel	1	1590–1020	1495–1050	1100	–	–
	2	1430–900	1330–935	1030	–	–
	3	1180–740	1100–770	855	–	–
	4	1070–670	1020–705	790	890–620	1050–830
	5	890–560	855–570	660	790–550	870–700
	6	640–395	590–410	475	725–490	640–490
	7	215–130	200–145	165	–	215–165
Cast iron	15	590–380	575–395	440	560–490	590–475

For small depth of cut and low feeds use the higher value. Use the lower value for large depth of cut and high feeds.

## MP2500 – DURATOMIC™

	Seco material group	Face milling	Square shoulder and slot milling	Disc milling	HFM	Copy milling
		Recommended cutting speed, $v_c$ (sfpm)				
Steel	1	1410–900	1350–965	1150	1150–1050	1595–1275
	2	1270–800	1180–850	1020	1030–980	1430–1110
	3	1030–670	980–700	830–735	870–820	1170–935
	4	950–600	890–635	770–670	735–720	1050–790
	5	790–505	740–545	640–560	640–590	820–670
	6	575–360	545–390	460–410	575–460	610–475
	7	165–110	165–110	130–110	–	165
Stainless steel	8	870–560	820–590	700–620	890–785	985–750
	9	755–490	725–520	610–540	820–685	855–670
	10	640–410	610–440	525–455	755	740–570
	11	510–328	475–340	410–360	640	590–440

For small depth of cut and low feeds use the higher value. Use the lower value for large depth of cut and high feeds.

# CUTTING SPEED RANGE

## MK1500 – DURATOMIC™

	Seco material group	Face milling	Square shoulder and slot milling	Disc milling	HFM	Copy milling
		Recommended cutting speed, $v_c$ (sfpm)				
Cast iron	12	1115–705	1050–740	900–790	–	–
	13	1030–655	970–670	840–740	–	–
	14	935–590	885–625	750–670	–	–
	15	750–475	720–490	605–540	–	–

For small depth of cut and low feeds use the higher value. Use the lower value for large depth of cut and high feeds.

## MK3000 – DURATOMIC™

	Seco material group	Face milling	Square shoulder and slot milling	Disc milling	HFM	Copy milling
		Recommended cutting speed, $v_c$ (sfpm)				
Cast iron	12	720–460	–	–	690–625	770–510
	13	660–425	–	–	625–575	720–460
	14	605–390	–	–	575–510	640–410
	15	490–310	–	–	510–440	525–340

For small depth of cut and low feeds use the higher value. Use the lower value for large depth of cut and high feeds.

## MK2000

	Seco material group	Face milling	Square shoulder and slot milling	Disc milling	HFM	Copy milling
		Recommended cutting speed, $v_c$ (sfpm)				
Cast iron	12	755–575	740–590	640–560	740–670	720–540
	13	705–525	670–540	590–525	670–605	770–490
	14	640–475	605–490	525–475	605–540	690–440
	15	510–390	490–390	425–375	540–475	560–380

For small depth of cut and low feeds use the higher value. Use the lower value for large depth of cut and high feeds.

## MH1000

	Seco material group	Face milling	Square shoulder and slot milling	Disc milling	HFM	Copy milling
		Recommended cutting speed, $v_c$ (sfpm)				
Steel	7	–	–	–	720–360	280

For small depth of cut and low feeds use the higher value. Use the lower value for large depth of cut and high feeds.

# INSERT PROGRAM

## Face milling

Part No.	Grades					
	MP1500*	MP2500*	MK1500*	MK3000*	MK2000	MH1000
HPMN1206ZETR-MD20		■	■	■		
HPMN1206ZETR-D25	■	□				
HPMN1206ZETL-D25	■	□				
HPMR1206ZETR-M17						
HPMR1206ZETR-ME15		■				
ODMT050408TN-MD20	■	■		□		
OFEN070405TN-D18	■	□	■	■		
OFER070405TN-ME10		■				
OFER070405TN-ME15		■				
OFER070405TN-M16	■	■	■	■		
OFMR070405TR-M15		■	■			
OFMR070405TR-ME13		■	■			
OFEN0704ZZTR-M16			■			
OFEW070405TN-D18	■					
OFET070405TN-M16			■			
OFMT070405TN-M15		■				
OFMT070405TN-ME13		■				
OFEX05T305TN-D09	■					
OFEX05T305TN-M08		■	■	■		
OFEX05T305TN-ME07		■				
OFMT050405TR-M14		■	■			
OFMT050405TR-ME12		■				
ONEF090520ZZTN-M14	■		■			
ONMF090520ANTN-M14	■	□	■	■		
ONMF090520ANTN-MD16	■		■	■		
REHR1605M0T-MD15	■					
REHR1605M0T-M14			■			
SEMX09T3AFTN-M08		■				
SEMX09T3AFTN-ME06		■				
SEEX09T3AFTN-D09	■					
SEEX09T3AFTN-M08			■	■	■	
SEEX09T3AFTN-ME07		■				
SEMX43AFTN-ME12		■				
SEMX43AFTN-M15	■	■	■	■	■	
SEMX43AFTN-MD19	■	■				
SEEX43AFN-M10		■				
SEEX43AFTN-M14	■	■	■	■	■	
SEEX43AFTN-ME11		■				
SEEX43AFTN-MD18	■	■	■			
SEEX43ZZTN-M14	■	■	■			
SEMX1505AFTN-M18	■	■	■	■	■	
SEMX1505AFTN-MD20	■	□	■			
SEEX1505AFN-M12		■				
SEEX1505AFTN-M17	■	■	■	■	■	
SEEX1505ZZTN-M17		■	■			
SEKR42AFTN-ME13	■	■				
SEKN42AFN-E12			■			
SEKN42AFTN-M14	■	■	■	■		
SEKN42AFTN-D16	■					
SEAN1303AFTN-M15			■			
SEAN42ZZTN-M15			■			
SEAN42ZZTN-MD15	■					
SEKN43AFTN-M18		■	■			
SEAN53ZZTN-M18			■			
SEAN1604AFTN-M19			■			
SEEX42AFTN-MD14			■		■	
SEKN53AFTN-MD20	■					
SEKN53AFTN-M18			■	■		
SNHF533TN-M14	■		■	■		

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■ Stocked item □ Available Q3 2008

## Face milling

Part No.	Grades					
	MP1500*	MP2500*	MK1500*	MK3000*	MK2000	MH1000
SNHF53XNN-M14	■			■		
SNHF53XNN-ME10			■			
SNHN533TN-MD15	■		■	■		
SNHN53XNN-MD15			■	■		
SNHF53ZZN-M14			■			
SNKF43ENEN-E08			■			
SNKN43EN-M10			■			
SPEN1906ZETL-MD20		■				
SPEN1906ZETR-MD20		■	■			
SPEN1906ZZTR-MD20		■	■			
SPER1906ZZTL-M17		■				
SPER1906ZZTR-M17		■				
SPEN1906ZETR-D25	■	□				
SPEN1906ZZTR-D25	■	□				
SPEN2807ZETR-MD35			■			
SPEN2807ZZTR-MD35	■					

## Square shoulder and slot milling

Part No.	Grades					
	MP1500*	MP2500*	MK1500*	MK3000*	MK2000	MH1000
ABER2606ZFFR-M15	■		■			
ACET150612TL-M11		■	□			
ACET150612TR-M11	■	■	■			
ACET150612TR-M14		■	■			
ACET150612TR-MD15	■					
ACET150630TR-MD15	■					
ACMT150612TR-M14		■				
APKT160408TR-D15			■			
APKT1604PDTR-ME14	■		■			
APMX160408TR-ME11	■					
APKX1604PDR-ME12		■	■			
APMX160404TL-M14		■				
APMX160404TR-M14		■				
APMX160408TL-M14		■				
APMX160408TR-M14	■	■	■			
APMX160416TR-M14		■				
APFT1604PDTL-D15	■					
APFT1604PDTR-D15	■					
SCET120612T-M11	■	■	■			
SCET120612T-M14		■	■			
SCET120612T-MD15	■					
SCMT120612T-M14		■				
SONX09T304TR-M10	■	■	■			
SONX09T308TR-M10	■	■	■			
SONX120508TR-M12	■	■	■		■	
SONX150508TR-M14	■	■	■		■	
SONX150516TR-M14		■	■			
XOMX090304TR-ME06	■	■	■			
XOMX090308TR-M08	■	■	■		■	
XOMX090308TR-ME06	■	■	■		■	
XOMX090312TR-ME06		■				
XOMX090316TR-ME06		■	■			
XOMX090320TR-ME06		■				

# INSERT PROGRAM

## Square shoulder and slot milling

Part No.	Grades					
	MP1500*	MP2500*	MK1500*	MK3000*	MK2000	MH1000
XOMX090324TR-ME06		■				
XOMX090331TR-ME06		■				
XOEX120404R-M07		■				
XOEX120408R-M07		■				
XOMX120404TR-MD13	■		■			
XOMX120404TR-ME08		■	■			
XOMX120408TR-D14	■	■	■			
XOMX120408TR-M12	■	■	■		■	
XOMX120408TR-MD13	■		■		■	
XOMX120408TR-ME08		■	■		■	
XOMX120412TR-MD13	■		■			
XOMX120412TR-ME08		■				
XOMX120416TR-MD13	■		■			
XOMX120416TR-ME08		■				
XOMX120420TR-ME08		■				
XOMX120424TR-ME08		■				
XOMX120431TR-ME08		■				
XOMX120440TR-ME08		■				
XOMX180604TR-ME13		■				
XOMX180608R-M10	■	■				
XOMX180608TR-D16	■	■	■			
XOMX180608TR-M14	■	■	■		■	
XOMX180608TR-MD15	■	■	■		■	
XOMX180608TR-ME13		■	■			
XOMX180612TR-M14	■	■	■		■	
XOMX180612TR-MD15	■	■	■		■	
XOMX180616TR-M14		■	■			
XOMX180616TR-MD15		■	■			
XOMX180616TR-ME13		■				
XOMX180620TR-M14		■				
XOMX180620TR-ME13		■				
XOMX180624TR-M14		■				
XOMX180624TR-ME13		■				
XOMX180631TR-M14		■				
XOMX180631TR-ME13		■				
XOMX180631TR-D16	■					
XOMX180640TR-ME13		■				
XCKX13T304R-ME10	■					
XCMX13T308TR-M11	■					

## HFM

Part No.	Grades					
	MP1500*	MP2500*	MK1500*	MK3000*	MK2000	MH1000
218.19-080T-M04		□				
218.19-080T-MD04		□		□	□	
218.19-100T-M06		■				
218.19-100T-MD08	■	□		□	□	■
218.19-125T-T3-M07		■				
218.19-125T-T3-MD10	■	□		□	□	■
218.19-160T-04-M08		■				
218.19-160T-04-MD11	■	□		□	□	
SCET120630T-M14		□		□	□	

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■ Stocked item □ Available Q3 2008

## Disc milling

Part No.	Grades					
	MP1500*	MP2500*	MK1500*	MK3000*	MK2000	MH1000
335.18-1005T-M10	■	■	■			■
335.18-1305T-M11	■	■	■			■
335.18-1606T-M12	■	■				
LNKT060504PPTN-M06		■				
LNKT060508PPTN-M06		■	■			
LNKT060516PPTN-M06			■			
LNKT060508PPTN-M06		■				
LNKT080508PPTN-M06		■	■			
LNKT080516PPTN-M06		■	■			
LNKT080520PPTN-M06			■			
LNKT080524PPTN-M06			■			
LNKT080531PPTN-M06			■			
LNKW060504PPN-MD08			■			
LNKW060508PPN-MD08		■	■			
LNKW080504PPN-MD08			■			
LNKW080508PPN-MD08			■	■		
335.19-1102T-MD09		□				
335.19-1103T-MD09		□				
335.19-1203T-MD09		□				
335.19-1204T-MD09		□				
335.19-12045T-MD09		□				
335.19-1205T-MD09		□				
335.19-1207T-MD09		□				

## Copy milling

Part No.	Grades					
	MP1500*	MP2500*	MK1500*	MK3000*	MK2000	MH1000
RDHW06T1M0-MD02						□
RDKW0803M0T-MD05		□			□	
RDHT10T3M0T-M05		□		□		
RDHT10T3M0T-M07		□				
RDKW10T3M0T-MD06	■	□			□	■
RPHT1204M0T-ME07		□				
RPHT1204M0T-M08		■				
RPHT1204M0T-M10		□				
RPHT1204M0T-M15	■	■		□		
RPHW1204M0T-MD10						■
RPKW1204M0T-MD10	■				□	
RPHT1605M0T-ME11		□				
RPHW1605M0T-MD08		■				
RPHT1605M0T-M12		□				
RPHT1605M0T-M18		■		□		
RPKW1605M0T-MD20	■				□	
RPHT2006M0T-ME12		□				
RPKT2006M0T-M15		□				
RPKT2006M0T-M20	■			□		
RPKW2006M0T-MD22	■				□	





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