

## Annular cutter

# High Speed Steel

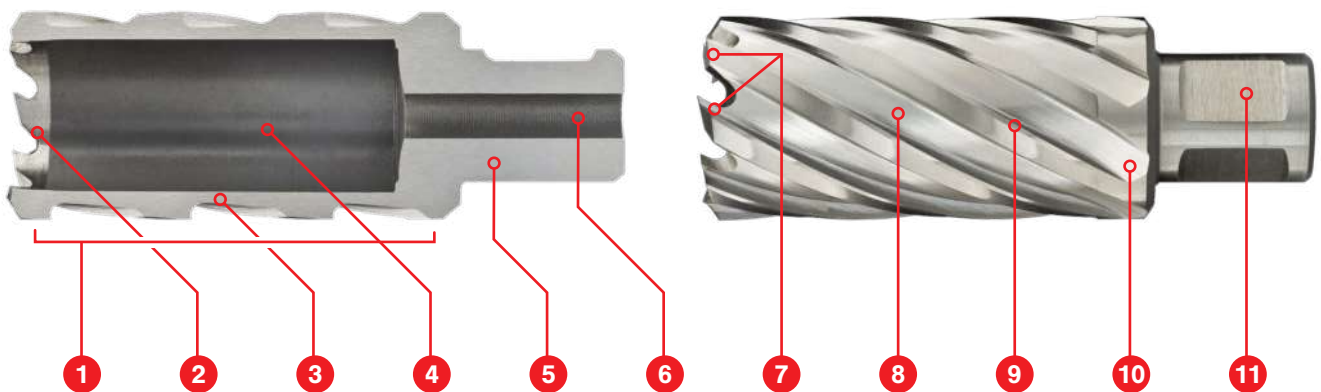


HSS annular cutters, with unique teeth geometry, provide clear cutting, fast feed rate, less vibration, smooth hole surface and long tool life. They are better and quicker than twist drills. HSS annular cutters can be used on all kinds of magnetic drilling machines. They can be widely used in drilling steel, copper, aluminium, stainless

steel and plastic, in either plate or pipe form. The HSS annular cutters have gained huge popularity in the market. The entire range is available in various specifications that can be customised as per your requirements.

HSS material application													
Plastics GRP/CRP	Brass, Copper, Tin	Grey cast iron	Steel					Stainless steel		Aluminium		Exotic materials, Inconnell, Nimonic, HARDOX, Hastelloy	Rails
			< 500N	< 750N	< 900N	< 1,100N	< 1,400N	< 900N	≤ 900N	< 10% Si	≤ 10% Si		
●	○		●	●	○					○			

## HSS profile



1. Stage hardening. Combines maximum hardness at the teeth with superior strength at the cutter body, reducing breakage to a minimum.
2. Inner ground cutting teeth. Helps stable "setting" of the cutter, reduces friction during drilling and helps slug ejection.
3. Wall thickness matched to the diameter of the cutter, combining the best possible cutting time with strength.
4. Tapered inside fitment prevents the cutter getting stuck. Guaranteed slug ejection with usage of the correct pilot pin.
5. Precise shank fitment for maximum interchangeability and close tolerance drilling without run-out.
6. Precise pilot pin fitment for perfect centration, hassle-free pin retraction and controlled lubricant flow.
7. Altering "continuous pre-cut" teeth geometry. Generates faster and more stable drilling performance and results in clear cuts of the highest precision and smooth, burr-free finishes.
8. Well-thought-out spiral flute angles for optimal chip removal.
9. Specially designed blades for optimum stability and heat-reduction.
10. Number of flutes and teeth matched to the diameter of the cutter for the best tooth load and superior cutting speeds.
11. Precision ground shanks for optimum fitment of the cutter itself in the tool holder and of pilot pin in the annular cutter. Increases safety, stability and accurate hole dimensions.

	DoC 30 mm Weldon	DoC 30 mm Universal	DoC 55 mm Weldon	DoC 55 mm Universal	DoC 75 mm Weldon	DoC 100 mm Weldon
DIA	Ø 12 - 100 mm	Ø 12 - 60 mm	Ø 12 - 100 mm	Ø 12 - 60 mm	Ø 14 - 50 mm	Ø 18 - 50 mm
	Code	Code	Code	Code	Code	Code
Ø 12	HCS.120	HCSU.120	HCL.120	HCLU.120	HCY.120	HCX.120
Ø 13	HCS.130	HCSU.130	HCL.130	HCLU.130	HCY.130	HCX.130
Ø 13.5	HCS.135		HCL.135			
Ø 14	HCS.140	HCSU.140	HCL.140	HCLU.140	HCY.140	HCX.140
Ø 15	HCS.150	HCSU.150	HCL.150	HCLU.150	HCY.150	HCX.150
Ø 15.5	HCS.155		HCL.155			
Ø 16	HCS.160	HCSU.160	HCL.160	HCLU.160	HCY.160	HCX.160
Ø 17	HCS.170	HCSU.170	HCL.170	HCLU.170	HCY.170	HCX.170
Ø 17.5	HCS.175		HCL.175			
Ø 18	HCS.180	HCSU.180	HCL.180	HCLU.180	HCY.180	HCX.180
Ø 19	HCS.190	HCSU.190	HCL.190	HCLU.190	HCY.190	HCX.190
Ø 19.5	HCS.195		HCL.195			
Ø 20	HCS.200	HCSU.200	HCL.200	HCLU.200	HCY.200	HCX.200
Ø 21	HCS.210	HCSU.210	HCL.210	HCLU.210	HCY.210	HCX.210
Ø 21.5	HCS.215		HCL.215			
Ø 22	HCS.220	HCSU.220	HCL.220	HCLU.220	HCY.220	HCX.220
Ø 23	HCS.230	HCSU.230	HCL.230	HCLU.230	HCY.230	HCX.230
Ø 24	HCS.240	HCSU.240	HCL.240	HCLU.240	HCY.240	HCX.240
Ø 25	HCS.250	HCSU.250	HCL.250	HCLU.250	HCY.250	HCX.250
Ø 26	HCS.260	HCSU.260	HCL.260	HCLU.260	HCY.260	HCX.260
Ø 26.5	HCS.265		HCL.265			
Ø 27	HCS.270	HCSU.270	HCL.270	HCLU.270	HCY.270	HCX.270
Ø 28	HCS.280	HCSU.280	HCL.280	HCLU.280	HCY.280	HCX.280
Ø 29	HCS.290	HCSU.290	HCL.290	HCLU.290	HCY.290	HCX.290
Ø 30	HCS.300	HCSU.300	HCL.300	HCLU.300	HCY.300	HCX.300
Ø 31	HCS.310	HCSU.310	HCL.310	HCLU.310	HCY.310	HCX.310
Ø 32	HCS.320	HCSU.320	HCL.320	HCLU.320	HCY.320	HCX.320
Ø 33	HCS.330	HCSU.330	HCL.330	HCLU.330	HCY.330	HCX.330
Ø 34	HCS.340	HCSU.340	HCL.340	HCLU.340	HCY.340	HCX.340
Ø 35	HCS.350	HCSU.350	HCL.350	HCLU.350	HCY.350	HCX.350
Ø 36	HCS.360	HCSU.360	HCL.360	HCLU.360	HCY.360	HCX.360
Ø 37	HCS.370	HCSU.370	HCL.370	HCLU.370	HCY.370	HCX.370
Ø 38	HCS.380	HCSU.380	HCL.380	HCLU.380	HCY.380	HCX.380
Ø 39	HCS.390	HCSU.390	HCL.390	HCLU.390	HCY.390	HCX.390
Ø 40	HCS.400	HCSU.400	HCL.400	HCLU.400	HCY.400	HCX.400
Ø 41	HCS.410	HCSU.410	HCL.410	HCLU.410	HCY.410	HCX.410
Ø 42	HCS.420	HCSU.420	HCL.420	HCLU.420	HCY.420	HCX.420
Ø 43	HCS.430	HCSU.430	HCL.430	HCLU.430	HCY.430	HCX.430
Ø 44	HCS.440	HCSU.440	HCL.440	HCLU.440	HCY.440	HCX.440
Ø 45	HCS.450	HCSU.450	HCL.450	HCLU.450	HCY.450	HCX.450
Ø 46	HCS.460	HCSU.460	HCL.460	HCLU.460	HCY.460	HCX.460
Ø 47	HCS.470	HCSU.470	HCL.470	HCLU.470	HCY.470	HCX.470
Ø 48	HCS.480	HCSU.480	HCL.480	HCLU.480	HCY.480	HCX.480
Ø 49	HCS.490	HCSU.490	HCL.490	HCLU.490	HCY.490	HCX.490
Ø 50	HCS.500	HCSU.500	HCL.500	HCLU.500	HCY.500	HCX.500
Ø 51	HCS.510	HCSU.510	HCL.510	HCLU.510		
Ø 52	HCS.520	HCSU.520	HCL.520	HCLU.520		
Ø 53	HCS.530	HCSU.530	HCL.530	HCLU.530		
Ø 54	HCS.540	HCSU.540	HCL.540	HCLU.540		
Ø 55	HCS.550	HCSU.550	HCL.550	HCLU.550		
Ø 56	HCS.560	HCSU.560	HCL.560	HCLU.560		
Ø 57	HCS.570	HCSU.570	HCL.570	HCLU.570		
Ø 58	HCS.580	HCSU.580	HCL.580	HCLU.580		
Ø 59	HCS.590	HCSU.590	HCL.590	HCLU.590		



Weldon shank



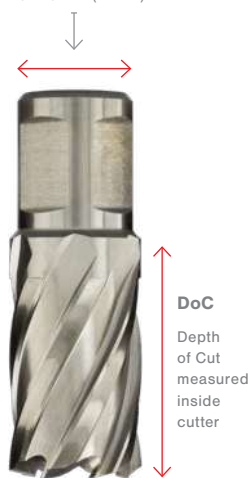
Universal shank



Shank sizes

DIA Ø 12 - 60 mm:  
19.05 mm (3/4")

DIA Ø 61 - 100 mm:  
31.75 mm (1 1/4")



DoC 75 mm (HCY)

DIA Ø 51 - 100 mm:  
Available on request

DoC 100 mm (HCX)

DIA Ø 51 - 100 mm:  
Available on request

# HSS metric

## HSS

### Weldon shank



### Universal shank



### Shank sizes

DIA Ø 12 - 60 mm:  
19.05 mm (3/4")

DIA Ø 61 - 100 mm:  
31.75 mm (1 1/4")



### DoC

Depth of Cut measured inside cutter

	DoC 30 mm Weldon	DoC 30 mm Universal	DoC 55 mm Weldon	DoC 55 mm Universal	DoC 75 mm Weldon	DoC 100 mm Weldon
DIA	Ø 12 - 100 mm	Ø 12 - 60 mm	Ø 12 - 100 mm	Ø 12 - 60 mm	Ø 14 - 50 mm	Ø 18 - 50 mm
	Code	Code	Code	Code	Code	Code
Ø 60	HCS.600	HCSU.600	HCL.600	HCLU.600		
Ø 61	HCS.610		HCL.610			
Ø 62	HCS.620		HCL.620			
Ø 63	HCS.630		HCL.630			
Ø 64	HCS.640		HCL.640			
Ø 65	HCS.650		HCL.650			
Ø 66	HCS.660		HCL.660			
Ø 67	HCS.670		HCL.670			
Ø 68	HCS.680		HCL.680			
Ø 69	HCS.690		HCL.690			
Ø 70	HCS.700		HCL.700			
Ø 71	HCS.710		HCL.710			
Ø 72	HCS.720		HCL.720			
Ø 73	HCS.730		HCL.730			
Ø 74	HCS.740		HCL.740			
Ø 75	HCS.750		HCL.750			
Ø 76	HCS.760		HCL.760			
Ø 77	HCS.770		HCL.770			
Ø 78	HCS.780		HCL.780			
Ø 79	HCS.790		HCL.790			
Ø 80	HCS.800		HCL.800			
Ø 81	HCS.810		HCL.810			
Ø 82	HCS.820		HCL.820			
Ø 83	HCS.830		HCL.830			
Ø 84	HCS.840		HCL.840			
Ø 85	HCS.850		HCL.850			
Ø 86	HCS.860		HCL.860			
Ø 87	HCS.870		HCL.870			
Ø 88	HCS.880		HCL.880			
Ø 89	HCS.890		HCL.890			
Ø 90	HCS.900		HCL.900			
Ø 91	HCS.910		HCL.910			
Ø 92	HCS.920		HCL.920			
Ø 93	HCS.930		HCL.930			
Ø 94	HCS.940		HCL.940			
Ø 95	HCS.950		HCL.950			
Ø 96	HCS.960		HCL.960			
Ø 97	HCS.970		HCL.970			
Ø 98	HCS.980		HCL.980			
Ø 99	HCS.990		HCL.990			
Ø 100	HCS.1000		HCL.1000			

### DoC 75 mm (HCY)

DIA Ø 51 - 100 mm:  
Available on request

### DoC 100 mm (HCX)

DIA Ø 51 - 100 mm:  
Available on request

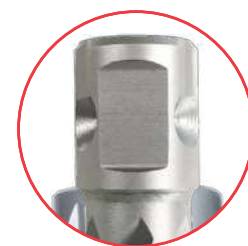
	DoC 1" Weldon	DoC 2" Weldon	DoC 2" Universal
DIA	Ø 7/16" - 4"	Ø 7/16" - 4"	Ø 7/16" - 2 5/16"
	Code	Code	Code
Ø 7/16"	HCS.7/16"	HCL.7/16"	HCLU.7/16"
Ø 1/2"	HCS.1/2"	HCL.1/2"	HCLU.1/2"
Ø 9/16"	HCS.9/16"	HCL.9/16"	HCLU.9/16"
Ø 5/8"	HCS.5/8"	HCL.5/8"	HCLU.5/8"
Ø 11/16"	HCS.11/16"	HCL.11/16"	HCLU.11/16"
Ø 3/4"	HCS.3/4"	HCL.3/4"	HCLU.3/4"
Ø 13/16"	HCS.13/16"	HCL.13/16"	HCLU.13/16"
Ø 7/8"	HCS.7/8"	HCL.7/8"	HCLU.7/8"
Ø 15/16"	HCS.15/16"	HCL.15/16"	HCLU.15/16"
Ø 1"	HCS.1"	HCL.1"	HCLU.1"
Ø 1 1/16"	HCS.1-1/16"	HCL.1-1/16"	HCLU.1-1/16"
Ø 1 1/8"	HCS.1-1/8"	HCL.1-1/8"	HCLU.1-1/8"
Ø 1 3/16"	HCS.1-3/16"	HCL.1-3/16"	HCLU.1-3/16"
Ø 1 1/4"	HCS.1-1/4"	HCL.1-1/4"	HCLU.1-1/4"
Ø 1 5/16"	HCS.1-5/16"	HCL.1-5/16"	HCLU.1-5/16"
Ø 1 3/8"	HCS.1-3/8"	HCL.1-3/8"	HCLU.1-3/8"
Ø 1 7/16"	HCS.1-7/16"	HCL.1-7/16"	HCLU.1-7/16"
Ø 1 1/2"	HCS.1-1/2"	HCL.1-1/2"	HCLU.1-1/2"
Ø 1 9/16"	HCS.1-9/16"	HCL.1-9/16"	HCLU.1-9/16"
Ø 1 5/8"	HCS.1-5/8"	HCL.1-5/8"	HCLU.1-5/8"
Ø 1 11/16"	HCS.1-11/16"	HCL.1-11/16"	HCLU.1-11/16"
Ø 1 3/4"	HCS.1-3/4"	HCL.1-3/4"	HCLU.1-3/4"
Ø 1 13/16"	HCS.1-13/16"	HCL.1-13/16"	HCLU.1-13/16"
Ø 1 7/8"	HCS.1-7/8"	HCL.1-7/8"	HCLU.1-7/8"
Ø 1 15/16"	HCS.1-15/16"	HCL.1-15/16"	HCLU.1-15/16"
Ø 2"	HCS.2"	HCL.2"	HCLU.2"
Ø 2 1/16"	HCS.2-1/16"	HCL.2-1/16"	HCLU.2-1/16"
Ø 2 1/8"	HCS.2-1/8"	HCL.2-1/8"	HCLU.2-1/8"
Ø 2 3/16"	HCS.2-3/16"	HCL.2-3/16"	HCLU.2-3/16"
Ø 2 1/4"	HCS.2-1/4"	HCL.2-1/4"	HCLU.2-1/4"
Ø 2 5/16"	HCS.2-5/16"	HCL.2-5/16"	HCLU.2-5/16"
Ø 2 3/8"	HCS.2-3/8"	HCL.2-3/8"	
Ø 2 7/16"	HCS.2-7/16"	HCL.2-7/16"	
Ø 2 1/2"	HCS.2-1/2"	HCL.2-1/2"	
Ø 2 9/16"	HCS.2-9/16"	HCL.2-9/16"	
Ø 2 5/8"	HCS.2-5/8"	HCL.2-5/8"	
Ø 2 11/16"	HCS.2-11/16"	HCL.2-11/16"	
Ø 2 3/4"	HCS.2-3/4"	HCL.2-3/4"	
Ø 2 13/16"	HCS.2-13/16"	HCL.2-13/16"	
Ø 2 7/8"	HCS.2-7/8"	HCL.2-7/8"	
Ø 2 15/16"	HCS.2-15/16"	HCL.2-15/16"	
Ø 3"	HCS.3"	HCL.3"	
Ø 3 1/16"	HCS.3-1/16"	HCL.3-1/16"	
Ø 3 1/8"	HCS.3-1/8"	HCL.3-1/8"	
Ø 3 3/16"	HCS.3-3/16"	HCL.3-3/16"	
Ø 3 1/4"	HCS.3-1/4"	HCL.3-1/4"	
Ø 3 5/16"	HCS.3-5/16"	HCL.3-5/16"	
Ø 3 3/8"	HCS.3-3/8"	HCL.3-3/8"	
Ø 3 7/16"	HCS.3-7/16"	HCL.3-7/16"	
Ø 3 1/2"	HCS.3-1/2"	HCL.3-1/2"	
Ø 3 9/16"	HCS.3-9/16"	HCL.3-9/16"	
Ø 3 5/8"	HCS.3-5/8"	HCL.3-5/8"	
Ø 3 11/16"	HCS.3-11/16"	HCL.3-11/16"	
Ø 3 3/4"	HCS.3-3/4"	HCL.3-3/4"	



Weldon shank



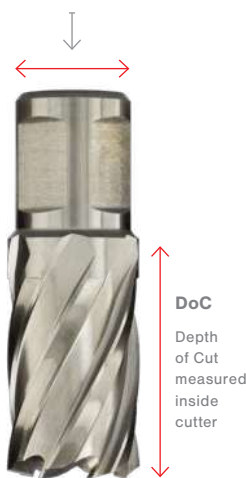
Universal shank



Shank sizes

DIA Ø 7/16" - 2 5/16":  
3/4"

DIA Ø 2 3/8" - 4":  
1 1/4"



	DoC 1" Weldon	DoC 2" Weldon	DoC 2" Universal
DIA	Ø 7/16" - 4"	Ø 7/16" - 4"	Ø 7/16" - 2 5/16"
	Code	Code	Code
Ø 3 13/16"	HCS.3-13/16"	HCL.3-13/16"	
Ø 3 7/8"	HCS.3-7/8"	HCL.3-7/8"	
Ø 3 15/16"	HCS.3-15/16"	HCL.3-15/16"	
Ø 4"	HCS.4"	HCL.4"	

6 piece cutter sets



Set HSS metric

DoC 30 mm

- 6 piece annular cutter set
- Cutter sizes Ø 14, 18, 22 mm (2 of each DoC)
- Pilot pin IBC.70 included

HCS.KIT

DoC 55 mm

- 6 piece annular cutter set
- Cutter sizes Ø 14, 18, 22 mm (2 of each DoC)
- Pilot pin IBC.90 included

HCL.KIT

Set HSS imperial

DoC 1"

- 6 piece annular cutter set
- Cutter sizes Ø 9/16", 11/16", 13/16" (2 of each DoC)
- Pilot pin IBC.70 included

HCS.KIT/8

DoC 1" & 2"

- 6 piece annular cutter set
- Cutter sizes Ø 9/16", 11/16", 13/16" (1 of each DoC)
- Pilot pins IBC.70 & IBC.90 included

HCS.KIT/9

10 piece cutter sets



DoC 30 mm

- 10 piece annular cutter set
- Cutter sizes Ø 12, 14, 16, 18, 20, 22, 24, 26, 28, 30 mm
- Pilot pin IBC.70 included

HCS.KIT/10

DoC 30 mm

- 10 piece annular cutter set
- Cutter sizes 3 x Ø 14, 3 x Ø 18, 2 x Ø 22, 2 x Ø 26 mm
- 2 x Pilot pin IBC.70 included

HSS.KIT/10S-M2

DoC 1"

- 10 piece annular cutter set
- Cutter sizes 2 x Ø 9/16", 2 x Ø 11/16", 2 x Ø 13/16", 2 x Ø 7/8", Ø 15/16", Ø 1"
- 2 x Pilot pin IBC.70 included

HSS.KIT/10S-I1

DoC 1"

- 10 piece annular cutter set
- Cutter sizes 3 x Ø 9/16", 3 x Ø 13/16", 3 x Ø 7/8", Ø 15/16"
- 2 x Pilot pin IBC.70 included

HSS.KIT/10S-I2



DoC 55 mm

- 10 piece annular cutter set
- Cutter sizes Ø 12, 14, 16, 18, 20, 22, 24, 26, 28, 30 mm
- 2 x Pilot pin IBC.90 included

HCL.KIT/10

DoC 55 mm

- 10 piece annular cutter set
- Cutter sizes 3 x Ø 14, 3 x Ø 18, 2 x Ø 22, 2 x Ø 26 mm
- 2 x Pilot pin IBC.90 included

HSS.KIT/10L-M2

DoC 2"

- 10 piece annular cutter set
- Cutter sizes 2 x Ø 9/16", 2 x Ø 11/16", 2 x Ø 13/16", 2 x Ø 7/8", Ø 15/16", Ø 1"
- 2 x Pilot pin IBC.90 included

HSS.KIT/10L-I1

DoC 2"

- 10 piece annular cutter set
- Cutter sizes 3 x Ø 9/16", 3 x Ø 13/16", 3 x Ø 7/8", Ø 15/16"
- 2 x Pilot pin IBC.90 included

HSS.KIT/10L-I2

## Annular cutter

# High Speed Steel Stack



Standard HSS Euroboor annular cutters feature teeth geometry which is optimised for use on single layer workpieces, ensuring the fastest and best drilling performance. The rest material created with the use of these cutters is our signature: the Euroboor slug. The rim on this slug is exactly what prevents our standard HSS cutters from penetrating the second layer of material.

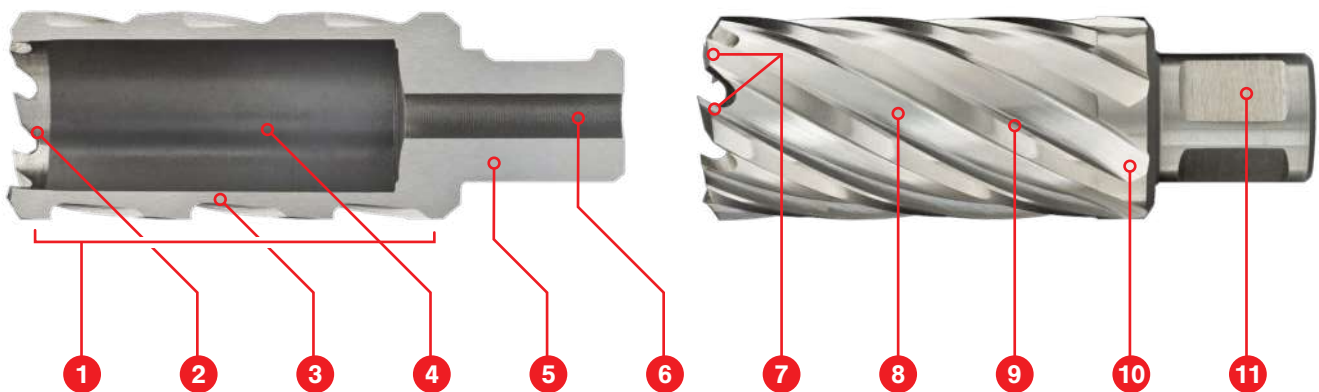
In order to drill multiple layers of material simultaneously, we recommend the use of our annular cutters with stack geometry.

The unique teeth profile ensures safe and stable penetration: layer for layer.

Combined with the standard performance improving characteristics of Euroboor annular cutters this results in smooth layer transitions, precise and clean hole finishes and the time savings you are looking for.

HSS stack material application													
Plastics GRP/CRP	Brass, Copper, Tin	Grey cast iron	Steel					Stainless steel		Aluminium		Exotic materials, Inconnell, Nimonic, HARDOX, Hastelloy	Rails
			< 500N	< 750N	< 900N	< 1,100N	< 1,400N	< 900N	≤ 900N	< 10% Si	≤ 10% Si		
●	○		●	●	○					○			

## HSS profile



1. Stage hardening. Combines maximum hardness at the teeth with superior strength at the cutter body, reducing breakage to a minimum.
2. Extra deep inner ground cutting teeth. Helps stable "setting" of the cutter, reduces friction during drilling and helps (multiple) slug ejection.
3. Wall thickness matched to the diameter of the cutter, combining the best possible cutting time with strength.
4. Tapered inside fitment prevents the cutter getting stuck. Guaranteed slug(s) ejection with usage of the correct pilot pin.
5. Precise shank fitment for maximum interchangeability and close tolerance drilling without run-out.
6. Precise pilot pin fitment for perfect centration, hassle-free pin retraction and controlled lubricant flow.
7. Stack teeth geometry ensures stable and precise material penetration with fast cutting performance
8. Well-thought-out spiral flute angles for optimal chip removal.
9. Specially designed blades for optimum stability and heat-reduction.
10. Number of flutes and teeth matched to the diameter of the cutter for the best tooth load and superior cutting speeds.
11. Precision ground shanks for optimum fitment of the cutter itself in the tool holder and of pilot pin in the annular cutter. Increases safety, stability and accurate hole dimensions.

# HSS Stack

**Weldon shank**



**Shank sizes**

DIA Ø 18 - 32 mm:  
19.05 mm (3/4")

DIA Ø 11/16" - 1 1/4":  
3/4"

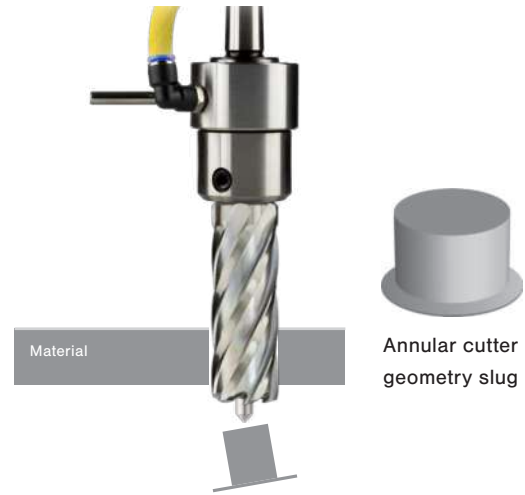


**DoC**  
Depth of Cut measured inside cutter

	DoC 55 mm Weldon	DoC 75 mm Weldon
<b>DIA</b>	Ø 18 - 32 mm	
	<b>Code</b>	<b>Code</b>
Ø 18	HCPL.180	HCPY.180
Ø 19	HCPL.190	HCPY.190
Ø 20	HCPL.200	HCPY.200
Ø 21	HCPL.210	HCPY.210
Ø 22	HCPL.220	HCPY.220
Ø 23	HCPL.230	HCPY.230
Ø 24	HCPL.240	HCPY.240
Ø 25	HCPL.250	HCPY.250
Ø 26	HCPL.260	HCPY.260
Ø 27	HCPL.270	HCPY.270
Ø 28	HCPL.280	HCPY.280
Ø 29	HCPL.290	HCPY.290
Ø 30	HCPL.300	HCPY.300
Ø 31	HCPL.310	HCPY.310
Ø 32	HCPL.320	HCPY.320

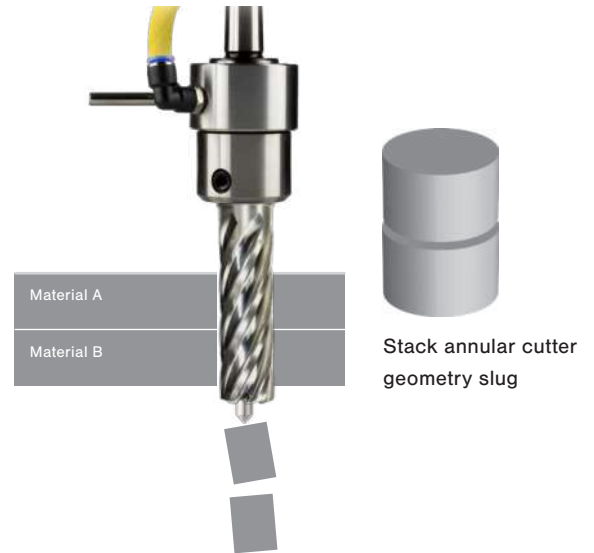
	DoC 2" Weldon	DoC 3" Weldon
<b>DIA</b>	Ø 11/16" - 1 1/4"	
	<b>Code</b>	<b>Code</b>
Ø 11/16"	HCPL.11/16"	HCPY.11/16"
Ø 3/4"	HCPL.3/4"	HCPY.3/4"
Ø 13/16"	HCPL.13/16"	HCPY.13/16"
Ø 7/8"	HCPL.7/8"	HCPY.7/8"
Ø 15/16"	HCPL.15/16"	HCPY.15/16"
Ø 1"	HCPL.1"	HCPY.1"
Ø 1 1/16"	HCPL.1-1/16"	HCPY.1-1/16"
Ø 1 1/8"	HCPL.1-1/8"	HCPY.1-1/8"
Ø 1 3/16"	HCPL.1-3/16"	HCPY.1-3/16"
Ø 1 1/4"	HCPL.1-1/4"	HCPY.1-1/4"

**Standard**



Annular cutter geometry slug

**Stack cutting**



Stack annular cutter geometry slug