

Foret à pointer ACE>>>

Spotting Concept!

Spotting produces a shallow hole to get better hole position enabling to produce more accurate final product. Ideally, the proper spotting angle should have larger point angle than that of your drill, so the center of a drill shall be the first point to contact workpiece to avoid the drill walked or moved in starting drilling.



► La conception à double vis de serrage

- assure l'absence de vibrations au cours de la coupe



Conception>>>

► 3 Angles : 90° / 120° / 142°

90°

• For 90° point angle drill.

120°

• 120° pour centrer avant de percer avec des forets à 118° d'angle de pointe.

142°

• 142° pour centrer avant de percer avec des forets haute performance à 135° ou 140° d'angle de pointe.

► Excellente répétabilité Ne nécessite pas la réinitialisation de la longueur de l'outil par type de plaquette.

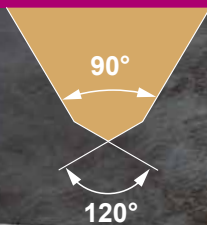
► Rigidité supérieure, coupe haute performance HPC, vie ultra-longue de l'outil.

- Symmetric 2-flute edge design reducing the lateral force, it enhances ACE Spot drill rigidity enabling to run high feed rate.
- Double point angle makes the insert tip stronger to prolong service life, which results in lower production cost.



Applications

Capable de percer avec un volume de lubrification minimal (MQL)



► Double angle de sommet

- Les doubles angles de sommet assurent la présence d'une résistance au centre pour empêcher toute fracturation.

Arrosage interne

- Conception optimisée du fluide de refroidissement pour un meilleur équilibrage.

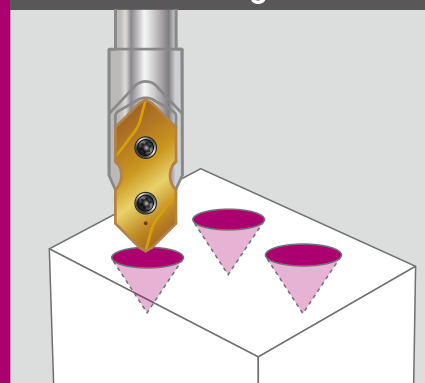


Arête à 2 cannelures

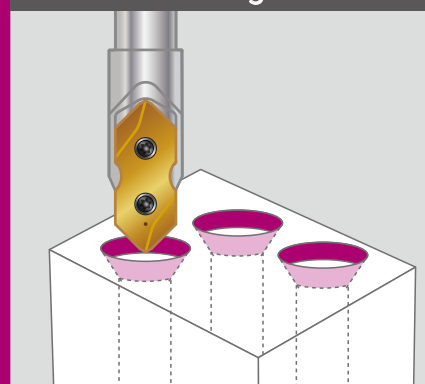
- Elle est symétrique.



Pointage

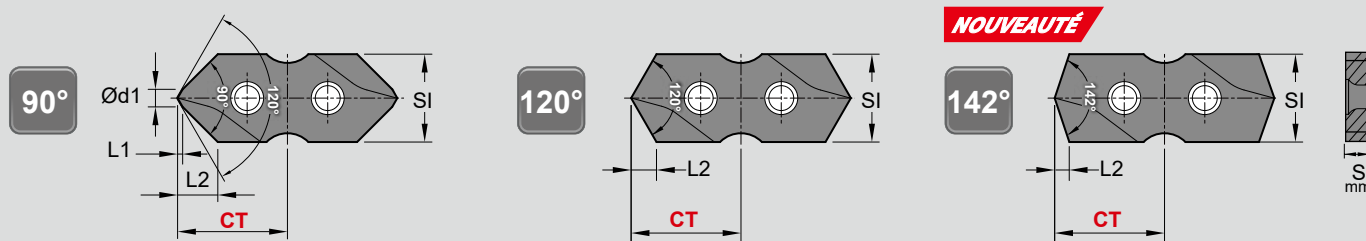


Fraisage



“ Nine9 spotting tool improves hole position, increases drill feed rate, extends tool life, enhances production efficiency, and ensures uniform hole quality. ”

Foret à pointer ACE Pointage, fraisage et chanfreinage

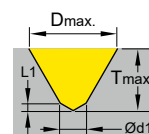


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Foret à pointer ACE

► Plaquettes >>

- NC2057:** • Qualité universelle pour l'acier allié et la fonte.
• Chaque plaquette possède 2 arêtes de coupe.
- NC5254:** • Pour l'acier inoxydable.
• Chaque plaquette possède 2 arêtes de coupe.
- XP9000:** • La géométrie fortement positive et l'arête vive permettent d'obtenir une excellente finition.
• Pour matériaux non-ferreux comme l'aluminium, le titane, le laiton, le cuivre, et des métaux à longs copeaux de coupe.
• Chaque plaquette possède 2 arêtes de coupe.

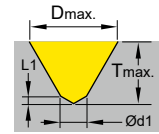


SI	Angle ±0.5	Code	Références	Revêtement	Nuance	Dimensions			Dmax.	Tmax.	S	CT ±0.025	
						Ød1	L1	L2					
06	60°	06A021	NC2057	AITiN+TiSiN	P35	1.2	0.35	4.5	5.5	4.1	1.8	7.5	
		06A023	S9MT06T1-060	NC5254				Helica					2.75
		06A022		XP9000				Uncoated					
	90°	06A031	NC2057	AITiN+TiSiN		-	-	1.73	5.5	1.6			
		06A033	S9MT06T1-090	NC5254									Helica
		06A032		XP9000									Uncoated
	120°	06A041	NC2057	AITiN+TiSiN		-	-	1.03	5.5	0.95			
		06A043	S9MT06T1-120	NC5254									Helica
		06A042		XP9000									Uncoated
142°	06A051	NC2057	AITiN+TiSiN	-	-	1.38	7.5	1.29					
	06A053	S9MT06T1-142	NC5254						Helica				
	06A052		XP9000						Uncoated				
08	60°	06A121	NC2057	AITiN+TiSiN	P35	1.6	0.46	6.0	7.5	5.6	2.4	10	
		06A125	S9MT0802-060	NC5254				Helica					3.6
		06A122		XP9000				Uncoated					
	90°	06A131	NC2057	AITiN+TiSiN		-	-	2.3	7.5	2.2			
		06A135	S9MT0802-090	NC5254									Helica
		06A132		XP9000									Uncoated
	120°	06A141	NC2057	AITiN+TiSiN		-	-	1.72	9.5	1.64			
		06A143	S9MT0802-120	NC5254									Helica
		06A142		XP9000									Uncoated
142°	06A151	NC2057	AITiN+TiSiN	-	-	1.72	9.5	1.64					
	06A153	S9MT0802-142	NC5254						Helica				
	06A152		XP9000						Uncoated				
10	60°	06A221	NC2057	AITiN+TiSiN	P35	2	0.58	7.5	9.5	7.1	3.0	12.50	
		06A223	S9MT1003-060	NC5254				Helica					4.6
		06A222		XP9000				Uncoated					
	90°	06A231	NC2057	AITiN+TiSiN		-	-	2.9	9.5	2.7			
		06A233	S9MT1003-090	NC5254									Helica
		06A232		XP9000									Uncoated
	120°	06A241	NC2057	AITiN+TiSiN		-	-	1.72	9.5	1.64			
		06A243	S9MT1003-120	NC5254									Helica
		06A242		XP9000									Uncoated
142°	06A251	NC2057	AITiN+TiSiN	-	-	1.72	9.5	1.64					
	06A253	S9MT1003-142	NC5254						Helica				
	06A252		XP9000						Uncoated				

The quantity of insert per box.:

SI 06	SI 08	SI 10	SI 12	SI 16	SI 20
5 pcs	5 pcs	5 pcs	5 pcs	2 pcs	1 pcs

Foret à pointer ACE Pointage, fraisage et chanfreinage



► Plaquettes >>

SI	Angle ±0.5	Code	Numero di parte	Revêtement	Nuance	Dimensions			Dmax.	Tmax.	S	CT ±0.025	
						Ød1	L1	L2					
12	60°	06A321		NC2057	AlTiN+TiSiN	P35	2.4	0.69	9.0	11.5	8.6	15	
		06A323	S9MT1203-060	NC5254	Helica								
		06A322		XP9000	Uncoated								
	90°	06A331		NC2057	AlTiN+TiSiN		2.4	0.69	5.5	11.5	5.3		3.0
		06A333	S9MT1203-090	NC5254	Helica								
		06A332		XP9000	Uncoated								
	120°	06A341		NC2057	AlTiN+TiSiN		-	-	3.5	11.5	3.3		13.5
		06A343	S9MT1203-120	NC5254	Helica								
		06A342		XP9000	Uncoated								
142°	06A351		NC2057	AlTiN+TiSiN	-	-	2.07	11.5	1.98	18			
	06A353	S9MT1203-142	NC5254	Helica									
	06A352		XP9000	Uncoated									
16	60°	06A421		NC2057	AlTiN+TiSiN	P35	3.2	0.92	12	15.5	11.6	20	
		06A423	S9MT1603-060	NC5254	Helica								
		06A422		XP9000	Uncoated								
	90°	06A431		NC2057	AlTiN+TiSiN		3.2	0.92	7.3	15.5	7.0		3.18
		06A433	S9MT1603-090	NC5254	Helica								
		06A432		XP9000	Uncoated								
	120°	06A441		NC2057	AlTiN+TiSiN		-	-	4.6	15.5	4.4		18
		06A443	S9MT1603-120	NC5254	Helica								
		06A442		XP9000	Uncoated								
142°	06A451		NC2057	AlTiN+TiSiN	-	-	2.76	15.5	2.67	22			
	06A453	S9MT1603-142	NC5254	Helica									
	06A452		XP9000	Uncoated									
20	60°	06A521		NC2057	AlTiN+TiSiN	P35	4.0	1.16	15	19.5	14.6	25	
		06A523	S9MT2004-060	NC5254	Helica								
		06A522		XP9000	Uncoated								
	90°	06A531		NC2057	AlTiN+TiSiN		4.0	1.16	9.2	19.5	8.9		4.76
		06A533	S9MT2004-090	NC5254	Helica								
		06A532		XP9000	Uncoated								
	120°	06A541		NC2057	AlTiN+TiSiN		-	-	5.8	19.5	5.6		22
		06A543	S9MT2004-120	NC5254	Helica								
		06A542		XP9000	Uncoated								
142°	06A551		NC2057	AlTiN+TiSiN	-	-	3.44	19.5	3.36	19			
	06A553	S9MT2004-142	NC5254	Helica									
	06A552		XP9000	Uncoated									

The quantity of insert per box.:

SI 06	SI 08	SI 10	SI 12	SI 16	SI 20
5 pcs	5 pcs	5 pcs	5 pcs	2 pcs	1 pcs

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Foret à pointer ACE

Holders of ACE Spot Drill

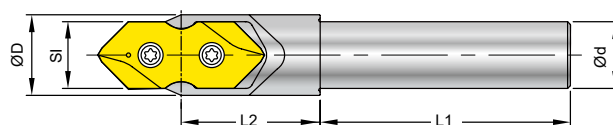
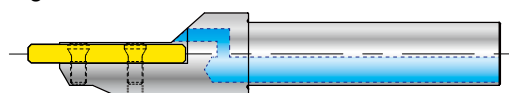


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Foret à pointer ACE

► Tige cylindrique >>

- Réalisé en acier trempé fortement allié, 53 HRC.
- Arrosage interne.



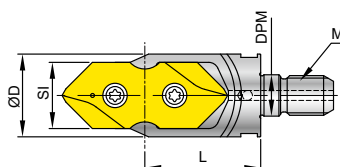
SI	Code	Références	Ød	L1	L2	ØD	Vis	Clé
06	6A0001	00-99688-SI06-06	6	27	14	8	*NS-18037 / 0.6Nm	NK-T6
08	6A0101	00-99688-SI08-08	8	36	19	10.5	*NS-20045 / 0.6Nm	NK-T6
10	6A0201	00-99688-SI10-10	10	40	22.5	13	*NS-25060 / 0.9Nm	NK-T7
12	6A0301	00-99688-SI12-12	12	45	25	15.5	NS-30072 / 2.0Nm	NK-T9
16	6A0401	00-99688-SI16-16	16	48	32	21	NS-35080 / 2.5Nm	NK-T15
20	6A0501	00-99688-SI20-20	20	50	35	26	NS-50125 / 5.5Nm	NK-T20

*L'emploi d'un tournevis dynamométrique est conseillé.

► Fraise à visser >>

NOUVEAUTÉ

- Réalisé en acier trempé fortement allié, 53 HRC.
- Arrosage interne.



SI	Code	Références	ØD	L	M	DPM	Vis	Clé
06	6A2001	00-99688-SI06-M04	8	14.5	M4xP0.7	4.5	*NS-18037 / 0.6Nm	NK-T6
08	6A2101	00-99688-SI08-M05	10	19	M5xP0.8	5.5	*NS-20045 / 0.6Nm	NK-T6
10	6A2201	00-99688-SI10-M06	12	22	M6xP1.0	6.5	*NS-25060 / 0.9Nm	NK-T7
12	6A2301	00-99688-SI12-M08	16	25	M8xP1.25	8.5	NS-30072 / 2.0Nm	NK-T9
16	6A2401	00-99688-SI16-M10	20	31	M10xP1.5	10.5	NS-35080 / 2.5Nm	NK-T15
20	6A2501	00-99688-SI20-M12	25	35	M12xP1.75	12.5	NS-50125 / 5.5Nm	NK-T20

• Refer to Page 9-156 for extension bars.

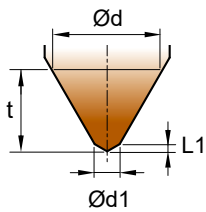
*L'emploi d'un tournevis dynamométrique est conseillé.

Notice technique

► Dal diametro di centratura “d” per ottenere la profondità “t”

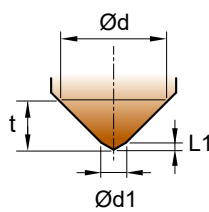
Plaquettes	S9MT06T1				S9MT0802				S9MT1003				S9MT1203				S9MT1603				S9MT2004																											
	60°	90°	120°	142°	60°	90°	120°	142°	60°	90°	120°	142°	60°	90°	120°	142°	60°	90°	120°	142°	60°	90°	120°	142°																								
Angle	60°	90°	120°	142°	60°	90°	120°	142°	60°	90°	120°	142°	60°	90°	120°	142°	60°	90°	120°	142°	60°	90°	120°	142°	60°	90°	120°	142°																				
Tmax.	4.1	2.5	1.6	0.95	5.6	3.4	2.2	1.29	7.1	4.4	2.7	1.64	8.6	5.3	3.3	1.98	11.6	7.0	4.4	2.67	14.6	8.9	5.6	3.36																								
Ød1	1.2		-		1.6		-		2		-		2.4		-		3.2		-		4.0		-																									
L1	0.35				-				0.46				-				0.58				-				0.69				-				0.92				-				1.16				-			

60°



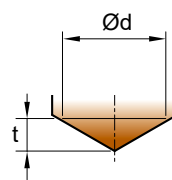
$$t = (\text{Ød} - \text{Ød1}) \times 0.866 + L1$$

90°



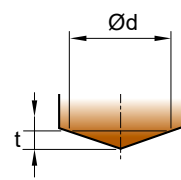
$$t = (\text{Ød} - \text{Ød1}) \times 0.5 + L1$$

120°



$$t = 0.289 \times \text{Ød}$$

142°



$$t = 0.172 \times \text{Ød}$$

► Attention for 60° spotting (S9MTxxx-060) , peck drilling cycle is necessary

1re étape Get “t” (spotting depth) from above.

2e étape Calculate T (depth factor): $T = \frac{t}{T_{max}}$
 If $T < 0.3$, no need peck drilling.
 If $T \geq 0.3$, peck drilling is necessary.

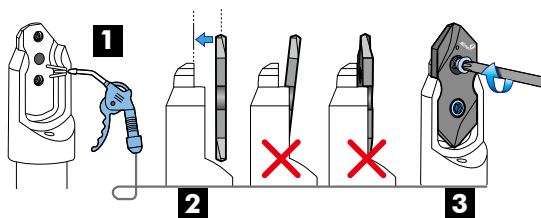
3e étape According to material, refer to the table and find Q (each pecking depth).

Matère \ Q T	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
	P	0.5	0.4	0.35	0.3	0.25	0.2	0.15
M	0.2	0.2	0.15	0.15	0.15	0.1	0.1	0.1
K	0.5	0.4	0.35	0.3	0.25	0.2	0.15	0.1
N	1.0	0.8	0.7	0.6	0.5	0.4	0.3	0.2

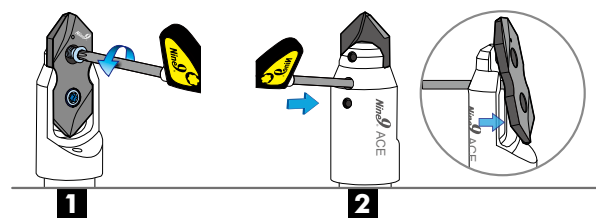
► Calcul des vitesses de coupe

Metric		Pouces	
$S = \frac{Vc \times 1000}{\pi \times d1}$	d1 = Diametre -mm	$S = \frac{(3.82 \times SFM)}{d}$	d = Diametre-Pouce
	S = Vitesse de broche en tr/min.		S = RPM=Tour par Minute (Vitesse de broche)
F = S x f	Vc = Vitesse de coupe en m/min.	F = r.p.m. x IPR	SFM = distance en pied par minute
	f = mm/tr		f = IPR = inch/rev.
	F = mm/min.		F = inch/min.

► Calage de la plaquette



► Desserrage de la plaquette



Conditions de coupe

S106 - S9MT06T1

Matère	Vc (m/min)	60°		90°	120°	142°	Nuance de plaquettes	
		Q (mm)	f (mm/tr)					
P Acier au carbone C<0.3%	120 ~ 250	0.1 ~ 0.5	0.01 ~ 0.05	0.02 ~ 0.08	0.02 ~ 0.10	0.02 ~ 0.10	NC2057	
	Acier au carbone C>0.3%							100 ~ 220
	Acier faiblement allié C<0.3%							100 ~ 200
	Acier fortement allié C>0.3%							80 ~ 180
M Acier inoxydable	30 ~ 80	0.1 ~ 0.2	0.01 ~ 0.02	0.01 ~ 0.03	0.01 ~ 0.03	0.01 ~ 0.03	NC5254	
K Fonte grise	80 ~ 180	0.1 ~ 0.5	0.01 ~ 0.05	0.02 ~ 0.08	0.02 ~ 0.10	0.02 ~ 0.10	NC2057	
N Al, et non-ferreux	150 ~ 300	0.2 ~ 1.0	0.01 ~ 0.06	0.03 ~ 0.10	0.03 ~ 0.12	0.03 ~ 0.12	XP9000	

S108 - S9MT0802

Matère	Vc (m/min)	60°		90°	120°	142°	Nuance de plaquettes	
		Q (mm)	f (mm/tr)					
P Acier au carbone C<0.3%	120 ~ 250	0.1 ~ 0.5	0.02 ~ 0.08	0.03 ~ 0.10	0.03 ~ 0.12	0.03 ~ 0.12	NC2057	
	Acier au carbone C>0.3%							100 ~ 220
	Acier faiblement allié C<0.3%							100 ~ 200
	Acier fortement allié C>0.3%							80 ~ 180
M Acier inoxydable	30 ~ 80	0.1 ~ 0.2	0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.04	0.01 ~ 0.04	NC5254	
K Fonte grise	80 ~ 180	0.1 ~ 0.5	0.02 ~ 0.08	0.03 ~ 0.10	0.03 ~ 0.12	0.03 ~ 0.12	NC2057	
N Al, et non-ferreux	150 ~ 300	0.2 ~ 1.0	0.03 ~ 0.10	0.03 ~ 0.12	0.03 ~ 0.15	0.03 ~ 0.15	XP9000	

S110 - S9MT1003

Matère	Vc (m/min)	60°		90°	120°	142°	Nuance de plaquettes	
		Q (mm)	f (mm/tr)					
P Acier au carbone C<0.3%	120 ~ 250	0.1 ~ 0.5	0.03 ~ 0.08	0.04 ~ 0.15	0.05 ~ 0.20	0.05 ~ 0.20	NC2057	
	Acier au carbone C>0.3%							100 ~ 220
	Acier faiblement allié C<0.3%							100 ~ 200
	Acier fortement allié C>0.3%							80 ~ 180
M Acier inoxydable	30 ~ 80	0.1 ~ 0.2	0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.04	0.01 ~ 0.04	NC5254	
K Fonte grise	80 ~ 180	0.1 ~ 0.5	0.02 ~ 0.08	0.03 ~ 0.12	0.05 ~ 0.15	0.05 ~ 0.15	NC2057	
N Al, et non-ferreux	150 ~ 300	0.2 ~ 1.0	0.03 ~ 0.10	0.04 ~ 0.20	0.05 ~ 0.25	0.05 ~ 0.25	XP9000	

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Foret à pointer ACE

Conditions de coupe

SI12 - S9MT1203

Matère	Vc (m/min)	60°		90°	120°	142°	Nuance de plaquettes
		Q (mm)	f (mm/tr)				
P Acier au carbone C<0.3%	120 ~ 250	0.1 ~ 0.5	0.03 ~ 0.08	0.05 ~ 0.20	0.06 ~ 0.25	0.06 ~ 0.25	NC2057
	100 ~ 220		0.03 ~ 0.07	0.04 ~ 0.15	0.05 ~ 0.20	0.05 ~ 0.20	
	100 ~ 200		0.02 ~ 0.06	0.04 ~ 0.12	0.05 ~ 0.16	0.05 ~ 0.16	
	80 ~ 180		0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.04	0.01 ~ 0.04	
M Acier inoxydable	30 ~ 80	0.1 ~ 0.2	0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.04	0.01 ~ 0.04	NC5254
K Fonte grise	80 ~ 180	0.1 ~ 0.5	0.02 ~ 0.08	0.04 ~ 0.15	0.05 ~ 0.20	0.05 ~ 0.20	NC2057
N Al, et non-ferreux	150 ~ 300	0.2 ~ 1.0	0.03 ~ 0.10	0.05 ~ 0.22	0.06 ~ 0.25	0.06 ~ 0.25	XP9000

SI16 - S9MT1603

Matère	Vc (m/min)	60°		90°	120°	142°	Nuance de plaquettes
		Q (mm)	f (mm/tr)				
P Acier au carbone C<0.3%	120 ~ 250	0.1 ~ 0.5	0.04 ~ 0.10	0.05 ~ 0.20	0.06 ~ 0.25	0.06 ~ 0.25	NC2057
	100 ~ 220		0.03 ~ 0.08	0.04 ~ 0.15	0.05 ~ 0.20	0.05 ~ 0.20	
	100 ~ 200		0.02 ~ 0.07	0.04 ~ 0.12	0.05 ~ 0.16	0.05 ~ 0.16	
	80 ~ 180		0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.04	0.01 ~ 0.04	
M Acier inoxydable	30 ~ 80	0.1 ~ 0.2	0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.04	0.01 ~ 0.04	NC5254
K Fonte grise	80 ~ 180	0.1 ~ 0.5	0.03 ~ 0.08	0.04 ~ 0.15	0.05 ~ 0.20	0.05 ~ 0.20	NC2057
N Al, et non-ferreux	150 ~ 300	0.2 ~ 1.0	0.04 ~ 0.12	0.05 ~ 0.25	0.06 ~ 0.25	0.06 ~ 0.25	XP9000

SI20 - S9MT2004

Matère	Vc (m/min)	60°		90°	120°	142°	Nuance de plaquettes
		Q (mm)	f (mm/tr)				
P Acier au carbone C<0.3%	120 ~ 250	0.1 ~ 0.5	0.04 ~ 0.10	0.05 ~ 0.25	0.06 ~ 0.30	0.06 ~ 0.30	NC2057
	100 ~ 220		0.03 ~ 0.08	0.04 ~ 0.20	0.05 ~ 0.25	0.05 ~ 0.25	
	100 ~ 200		0.02 ~ 0.07	0.04 ~ 0.15	0.05 ~ 0.20	0.05 ~ 0.20	
	80 ~ 180		0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.04	0.01 ~ 0.04	
M Acier inoxydable	30 ~ 80	0.1 ~ 0.2	0.01 ~ 0.03	0.01 ~ 0.04	0.01 ~ 0.04	0.01 ~ 0.04	NC5254
K Fonte grise	80 ~ 180	0.1 ~ 0.5	0.03 ~ 0.08	0.04 ~ 0.20	0.05 ~ 0.25	0.05 ~ 0.25	NC2057
N Al, et non-ferreux	150 ~ 300	0.2 ~ 1.0	0.04 ~ 0.12	0.05 ~ 0.30	0.06 ~ 0.30	0.06 ~ 0.30	XP9000

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Foret à pointer ACE