QUADTWIST™

Drill Diameters:
.4724" - .5315" NEW
(12.0 - 13.5mm)
.5512" - 2.000"
(14.0 - 50.8mm)

Drill Bodies:
2xD
3xD
4xD
5xD

Grades:
IN2505
IN6505* (Outboard Pocket Only)
IN1030
IN2510
IN10K

Features:
- Side coolant port
- Twisted flute for maximum chip evacuation

Ingersoll Cutting Tools is proud to announce the expansion to the QUADTWIST™ drilling diameter range. The expanded diameter range will now include .4724"-.5315" (D12.0-13.5mm) diameters which will utilize the new SOMT040204 -SK insert for standard 2xD, 3xD, 4xD and 5xD QUADTWIST™ bodies. The entire product line can now accommodate applications from .4724" – 2.000" (D12.0-50.8mm).

We have implemented a longer shank (-R02) that will give the QUADTWIST™ bodies additional stability when used in stationary applications, allowing two-screw contact with the shank flat creating a more rigid set up. We have also included a cutoff notch to shorten the shank for rotating applications, if necessary.

Ingersoll is also proud to announce -PS chipbreaker that has been specifically designed for the drilling of mild & low carbon steel applications. Additional information is included and can also be found in NPA (NEW-291-1).

PRODUCT ANNOUNCEMENT UPDATE 2019

Member IMC Group
Ingersoll Cutting Tools

CARBIDE GRADES

IN2505 (PVD) - GENERAL PURPOSE

- Sub-micron grade with high hardness and toughness
- New Multi-layered coating for higher chipping resistance
- Post-coat surface treatment improves chipping resistance and reduces cutting forces
- First choice for general applications
- Inboard and outboard pockets

IN2510 (PVD) - CAST IRON

- Sub-micron grade with high hardness and toughness
- New Multi-layered coating for higher chipping resistance
- Post-coat surface treatment improves chipping resistance and reduces cutting forces
- Inboard and outboard pockets

IN6505 (CVD) - STEEL APPLICATION

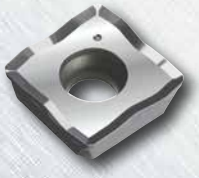
- Multi-layered CVD coating along with post coat surface treatment provides excellent wear resistance and improves chipping resistance
- Peripheral (Outboard) pocket only

IN1030 (PVD) - C.I., ALU., STAINLESS, TITANIUM

- Tough, slower speed applications
- If inboard chipping is an issue, IN1030 can tolerate low SFM
- More forgiving when machine rigidity is an issue

IN10K (UNCOATED) - ALUMINUM

- Polished
- Upsharp



MAXIMUM OFFSET DIMENSIONS

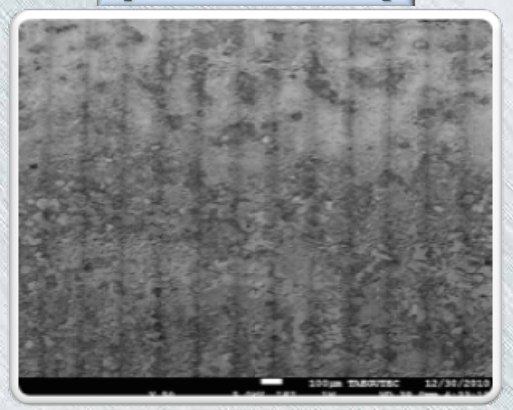
Drill Diameter	Insert	X-Max: Radial Adjustment	Max Offset Diameter
0.500" (12.7mm)	SOMT 040204	0.012	0.524
0.531" (13.5mm)	SOMT 040204	0.008	0.547
0.563" (14.3mm)	SOMT 050204	0.015	0.593
0.594" (15.0mm)	SOMT 050204	0.013	0.620
0.626" (15.9mm)	SOMT 050204	0.011	0.648
0.657" (16.7mm)	SOMT 060204	0.018	0.693
0.688" (17.5mm)	SOMT 060204	0.013	0.714
0.719" (18.3mm)	SOMT 060204	0.011	0.741
0.750" (19.1mm)	SOMT 060204	0.010	0.770
0.781" (19.8mm)	SOMT 070306	0.020	0.821
0.813" (20.6mm)	SOMT 070306	0.015	0.843
0.843" (21.4mm)	SOMT 070306	0.011	0.865
0.875" (22.2mm)	SOMT 070306	0.008	0.891
0.906" (23.0mm)	SOMT 08T306	0.025	0.956
0.938" (23.8mm)	SOMT 08T306	0.022	0.982
0.969" (24.6mm)	SOMT 08T306	0.018	1.005
0.984" (25.0mm)	SOMT 08T306	0.015	1.014
1.000" (25.4mm)	SOMT 08T306	0.015	1.030
1.031" (26.2mm)	SOMT 08T306	0.011	1.053
1.063" (27.0mm)	SOMT 090308	0.028	1.119
1.094" (27.8mm)	SOMT 090308	0.024	1.142
1.125" (28.6mm)	SOMT 090308	0.015	1.155
1.156" (29.4mm)	SOMT 090308	0.015	1.186
1.187" (30.2mm)	SOMT 090308	0.011	1.209
1.219" (31.0mm)	SOMT 090308	0.008	1.235
1.250" (31.8mm)	SOMT 11T308	0.035	1.320
1.281" (32.5mm)	SOMT 11T308	0.031	1.343
1.312" (33.3mm)	SOMT 11T308	0.031	1.374
1.343" (34.1mm)	SOMT 11T308	0.028	1.399
1.375" (34.9mm)	SOMT 11T308	0.024	1.423
1.406" (35.7mm)	SOMT 11T308	0.015	1.436
1.437" (36.5mm)	SOMT 130408	0.047	1.531
1.468" (37.3mm)	SOMT 130408	0.047	1.562
1.500" (38.1mm)	SOMT 130408	0.039	1.578
1.531" (38.9mm)	SOMT 130408	0.035	1.601
1.562" (39.7mm)	SOMT 130408	0.028	1.618
1.594" (40.5mm)	SOMT 130408	0.024	1.642
1.625" (41.3mm)	SOMT 130408	0.024	1.673
1.687" (42.8mm)	SOMT 130408	0.012	1.711
1.719" (43.7mm)	SOMT 150510	0.047	1.813
1.750" (44.5mm)	SOMT 150510	0.043	1.836
1.781" (45.2mm)	SOMT 150510	0.043	1.867
1.813" (46.0mm)	SOMT 150510	0.039	1.891
1.875" (47.6mm)	SOMT 150510	0.028	1.931
1.937" (49.2mm)	SOMT 150510	0.024	1.985
1.969" (50.0mm)	SOMT 150510	0.020	2.009
2.000" (50.8mm)	SOMT 150510	0.015	2.030

Note: Only Recommended For 2xD and 3xD Drill Bodies

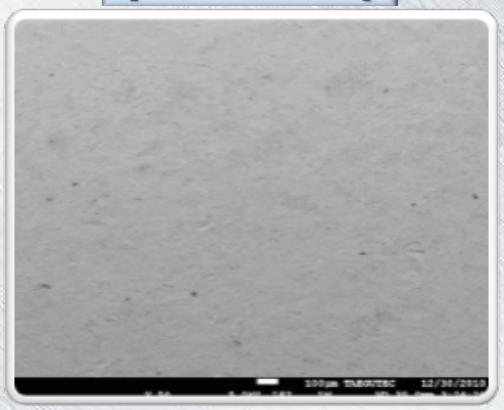
IMPROVED BODY RIGIDITY & PROLONGED TOOL LIFE

Drill Body Hardness - over HRc 50
Special Surface Treatment - Surface hardening & smooth chip flow
- Increases resistance to fatigue failure, corrosion and stress cracking

[Before treatment]



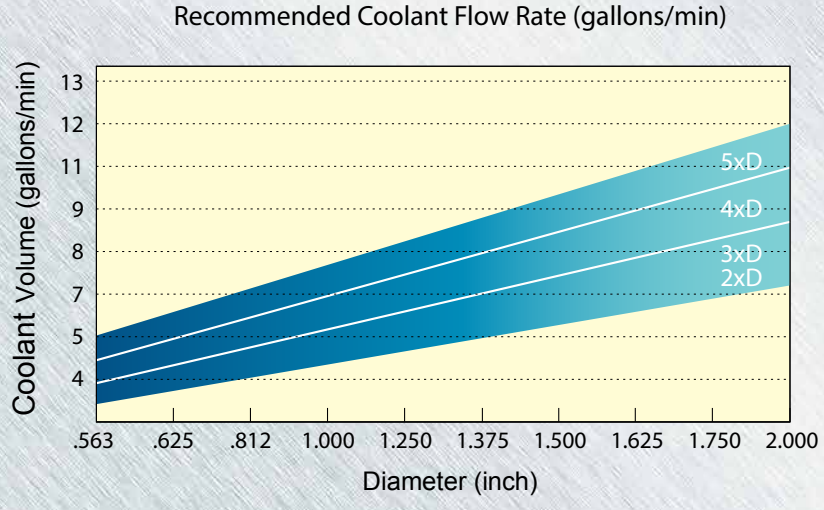
[After treatment]



INSERT TOLERANCE

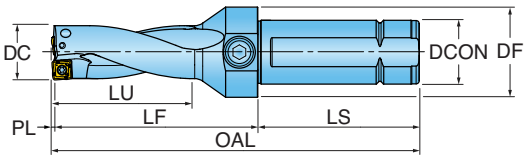
L/D	Hole Tolerance	
	Quad-Twist	Quad-Drill+
2XD	0/+0.006	0/+0.008
3XD	0/+0.008	0/+0.010
4XD	0/+0.010	0/+0.012
5XD	0/+0.012	0/+0.014

INTERNAL COOLING



QR SERIES 2XD INDEXABLE DRILL (-R02 SHANK)

NOTE: Coolant fittings PF0012, PF0013 & PF0015 are ordered separately.

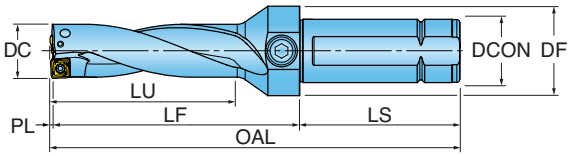


2xD Bodies	Dimensions (inch)														
Drill Number	DC (mm)	DC (inch)	PL	DCON	DF	LU	LF	OAL	LS	Insert	Screw	Torx	Torque (in. lbs.)	Coolant Fitting	Flange Plug
NEW QR0127025N5R02	12.7	0.500	0.032	1.000	1.26	1.02	2.05	5.20	3.16	SOMT 040204	SM18-041-00	DS-TP06S-NEU	3.5-4.4	PF-0012	PP02-01
NEW QR0135027N5R02	13.5	0.531	0.032	1.000	1.26	1.10	2.13	5.28	3.16						
QR0143029N5R02	14.3	0.563	0.030	1.000	1.26	1.13	2.13	5.28	3.16						
QR0150030N5R02	15.0	0.591	0.030	1.000	1.26	1.19	2.24	5.39	3.16	SOMT050204	SM20-043-00	DS-TP06S-NEU	5.0-9.0	PF-0012	PP02-01
QR0159032N5R02	15.9	0.626	0.030	1.000	1.26	1.25	2.36	5.51	3.16						
QR0167033N5R02	16.7	0.658	0.033	1.000	1.26	1.31	2.44	5.59	3.16						
QR0175035N5R02	17.5	0.689	0.033	1.000	1.26	1.38	2.56	5.71	3.16	SOMT060204	TS 22052I/HG-P	DS-TP07S	7.0-11.0	PF-0012	PP02-01
QR0183037N5R02	18.3	0.721	0.033	1.000	1.26	1.44	2.56	5.71	3.16						
QR0191038N5R02	19.1	0.750	0.033	1.000	1.26	1.50	2.64	5.79	3.16						
QR0198040N5R02	19.8	0.781	0.045	1.000	1.26	1.56	2.80	5.94	3.16						
QR0206041N5R02	20.6	0.813	0.045	1.000	1.26	1.63	2.87	6.02	3.16	SOMT070306	TS 22052I/HG-P	DS-TP07S	7.0-11.0	PF-0012	PP02-01
QR0214042N5R02	21.4	0.843	0.045	1.000	1.26	1.69	2.95	6.10	3.16						
QR0222044N5R02	22.2	0.875	0.045	1.000	1.26	1.75	2.95	6.10	3.16						
QR0230046N6R02	23.0	0.906	0.049	1.250	1.77	1.81	3.19	6.34	3.16						
QR0238048N6R02	23.8	0.938	0.049	1.250	1.77	1.88	3.31	6.46	3.16						
QR0246049N6R02	24.6	0.969	0.049	1.250	1.77	1.94	3.43	6.57	3.16	SOMT08T306	SO 25065I	HZS.0004	7.0-11.0	PF-0013	PP04-01
QR0250050N6R02	25.0	0.984	0.049	1.250	1.77	1.97	3.43	6.57	3.16						
QR0254051N6R02	25.4	1.000	0.049	1.250	1.77	2.00	3.50	6.65	3.16						
QR0262052N6R02	26.2	1.031	0.049	1.250	1.77	2.06	3.50	6.65	3.16						
QR0270054N6R02	27.0	1.063	0.059	1.250	1.77	2.13	3.43	6.57	3.16						
QR0278056N6R02	27.8	1.094	0.059	1.250	1.77	2.19	3.50	6.65	3.16						
QR0286057N6R02	28.6	1.125	0.059	1.250	1.77	2.25	3.58	6.73	3.16	SOMT09T308	SM35-088-60	DS-T10S	25.0-30.0	PF-0013	PP04-01
QR0294059N6R02	29.4	1.156	0.059	1.250	1.77	2.31	3.58	6.73	3.16						
QR0302060N6R02	30.2	1.187	0.059	1.250	1.77	2.37	3.66	6.81	3.16						
QR0310062N6R02	31.0	1.219	0.059	1.250	1.77	2.44	3.74	6.89	3.16						
QR0318063N6R02	31.8	1.250	0.066	1.250	1.77	2.50	3.90	7.05	3.16						
QR0325065N6R02	32.5	1.281	0.066	1.250	1.77	2.56	3.98	7.13	3.16						
QR0333067N6R02	33.3	1.312	0.066	1.250	1.77	2.62	3.98	7.13	3.16	SOMT11T308	SM35-088-60	DS-T10S	25.0-30.0	PF-0013	PP04-01
QR0341068N6R02	34.1	1.343	0.066	1.250	1.77	2.69	4.06	7.20	3.16						
QR0349070N6R02	34.9	1.375	0.066	1.250	1.77	2.75	4.13	7.28	3.16						
QR0357071N6R02	35.7	1.406	0.066	1.250	1.77	2.81	4.21	7.36	3.16						
QR0365073N6R02	36.5	1.437	0.074	1.250	2.16	2.87	4.37	7.52	3.16						
QR0373075N6R02	37.3	1.468	0.074	1.250	2.16	2.94	4.37	7.52	3.16						
QR0381076N6R02	38.1	1.500	0.074	1.250	2.16	3.00	4.45	7.60	3.16						
QR0389078N6R02	38.9	1.531	0.074	1.250	2.16	3.06	4.53	7.68	3.16	SOMT130408	SE02-82	T-15/51	30.0-35.0	PF-0013	PP04-01
QR0397079N6R02	39.7	1.562	0.074	1.250	2.16	3.12	4.61	7.76	3.16						
QR0405081N6R02	40.5	1.594	0.074	1.250	2.16	3.19	4.61	7.76	3.16						
QR0413083N6R02	41.3	1.625	0.074	1.250	2.16	3.25	4.69	7.83	3.16						
QR0428086N6R02	42.8	1.687	0.074	1.250	2.16	3.37	4.84	8.08	3.16						
QR0437087N7R02	43.7	1.719	0.084	1.500	2.36	3.43	5.04	8.19	3.16						
QR0445089N7R02	44.5	1.750	0.084	1.500	2.36	3.50	5.04	8.19	3.16						
QR0452090N7R02	45.2	1.781	0.084	1.500	2.36	3.56	5.12	8.27	3.16						
QR0460092N7R02	46.0	1.813	0.084	1.500	2.36	3.63	5.20	8.35	3.16	SOMT150510	SM50-113-20	DS-0034	45.0-50.0	PF-0015	PP04-01
QR0476095N7R02	47.6	1.875	0.084	1.500	2.36	3.75	5.35	8.50	3.16						
QR0492098N7R02	49.2	1.937	0.084	1.500	2.36	3.87	5.43	8.58	3.16						
QR0500100N7R02	50.0	1.969	0.084	1.500	2.36	3.94	5.51	8.66	3.16						
QR0508102N7R02	50.8	2.000	0.084	1.500	2.36	4.00	5.59	8.74	3.16						

Note: Metric bodies also available. Please see ecat for more information.

QR SERIES 3XD INDEXABLE DRILL (-R02 SHANK)

NOTE: Coolant fittings PF0012, PF0013 & PF0015 are ordered separately.

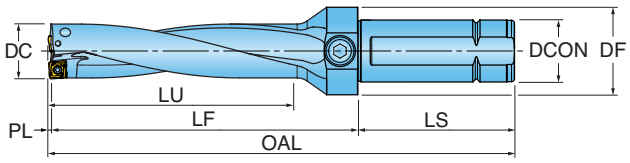


3xD Bodies	Dimensions (inch)														
Drill Number	DC (mm)	DC (inch)	PL	DCON	DF	LU	LF	OAL	LS	Insert	Screw	Torx	Torque (in. lbs.)	Coolant Fitting	Flange Plug
NEW QR0127038N5R02	12.7	0.500	0.032	1.000	1.26	1.54	2.56	5.71	3.16	SOMT 040204	SM18-041-00	DS-TP06S-NEU	3.5-4.4	PF-0012	PP02-01
NEW QR0135041N5R02	13.5	0.531	0.032	1.000	1.26	1.65	2.68	5.83	3.16						
QR0143043N5R02	14.3	0.563	0.030	1.000	1.26	1.69	2.68	5.83	3.16						
QR0150045N5R02	15.0	0.591	0.030	1.000	1.26	1.78	2.83	5.98	3.16	SOMT050204	SM20-043-00	DS-TP06S-NEU	5.0-9.0	PF-0012	PP02-01
QR0159048N5R02	15.9	0.626	0.030	1.000	1.26	1.87	2.99	6.14	3.16						
QR0167050N5R02	16.7	0.658	0.033	1.000	1.26	1.97	3.11	6.26	3.16						
QR0175053N5R02	17.5	0.689	0.033	1.000	1.26	2.06	3.27	6.42	3.16	SOMT060204	TS 22052I/HG-P	DS-TP07S	7.0-11.0	PF-0012	PP02-01
QR0183055N5R02	18.3	0.721	0.033	1.000	1.26	2.16	3.27	6.42	3.16						
QR0191057N5R02	19.1	0.750	0.033	1.000	1.26	2.25	3.39	6.54	3.16						
QR0198059N5R02	19.8	0.781	0.045	1.000	1.26	2.34	3.58	6.73	3.16						
QR0206062N5R02	20.6	0.813	0.045	1.000	1.26	2.44	3.70	6.85	3.16	SOMT070306	TS 22052I/HG-P	DS-TP07S	7.0-11.0	PF-0012	PP02-01
QR0214064N5R02	21.4	0.843	0.045	1.000	1.26	2.53	3.82	6.97	3.16						
QR0222067N5R02	22.2	0.875	0.045	1.000	1.26	2.63	3.82	6.97	3.16						
QR0230069N6R02	23.0	0.906	0.049	1.250	1.77	2.72	4.09	7.24	3.16						
QR0238071N6R02	23.8	0.938	0.049	1.250	1.77	2.81	4.25	7.40	3.16						
QR0246074N6R02	24.6	0.969	0.049	1.250	1.77	2.91	4.41	7.56	3.16	SOMT08T306	SO 25065I	HZS.0004	7.0-11.0	PF-0013	PP04-01
QR0250075N6R02	25.0	0.984	0.049	1.250	1.77	2.95	4.41	7.56	3.16						
QR0254076N6R02	25.4	1.000	0.049	1.250	1.77	3.00	4.53	7.68	3.16						
QR0262079N6R02	26.2	1.031	0.049	1.250	1.77	3.09	4.53	7.68	3.16						
QR0270081N6R02	27.0	1.063	0.059	1.250	1.77	3.19	4.49	7.64	3.16						
QR0278083N6R02	27.8	1.094	0.059	1.250	1.77	3.28	4.61	7.76	3.16						
QR0286086N6R02	28.6	1.125	0.059	1.250	1.77	3.38	4.72	7.87	3.16	SOMT09T308	SM35-088-60	DS-T10S	25.0-30.0	PF-0013	PP04-01
QR0294088N6R02	29.4	1.156	0.059	1.250	1.77	3.47	4.72	7.87	3.16						
QR0302090N6R02	30.2	1.187	0.059	1.250	1.77	3.56	4.84	7.99	3.16						
QR0310093N6R02	31.0	1.219	0.059	1.250	1.77	3.66	4.96	8.11	3.16						
QR0318095N6R02	31.8	1.250	0.066	1.250	1.77	3.75	5.16	8.31	3.16						
QR0325098N6R02	32.5	1.281	0.066	1.250	1.77	3.84	5.28	8.43	3.16						
QR0333100N6R02	33.3	1.312	0.066	1.250	1.77	3.94	5.28	8.43	3.16	SOMT11T308	SM35-088-60	DS-T10S	25.0-30.0	PF-0013	PP04-01
QR0341102N6R02	34.1	1.343	0.066	1.250	1.77	4.03	5.39	8.54	3.16						
QR0349105N6R02	34.9	1.375	0.066	1.250	1.77	4.13	5.51	8.66	3.16						
QR0357107N6R02	35.7	1.406	0.066	1.250	1.77	4.22	5.63	8.78	3.16						
QR0365110N6R02	36.5	1.437	0.074	1.250	2.16	4.31	5.83	8.98	3.16						
QR0373112N6R02	37.3	1.468	0.074	1.250	2.16	4.41	5.83	8.98	3.16						
QR0381114N6R02	38.1	1.500	0.074	1.250	2.16	4.50	5.94	9.09	3.16						
QR0389117N6R02	38.9	1.531	0.074	1.250	2.16	4.59	6.06	9.21	3.16						
QR0397119N6R02	39.7	1.562	0.074	1.250	2.16	4.69	6.18	9.33	3.16	SOMT130408	SE02-82	T-15/51	30.0-35.0	PF-0013	PP04-01
QR0405122N6R02	40.5	1.594	0.074	1.250	2.16	4.78	6.18	9.33	3.16						
QR0413124N6R02	41.3	1.625	0.074	1.250	2.16	4.87	6.30	9.45	3.16						
QR0428128N6R02	42.8	1.687	0.074	1.250	2.16	5.06	6.54	9.69	3.16						
QR0437131N7R02	43.7	1.719	0.084	1.500	2.36	5.16	6.77	9.92	3.16						
QR0445134N7R02	44.5	1.750	0.084	1.500	2.36	5.25	6.77	9.92	3.16						
QR0452136N7R02	45.2	1.781	0.084	1.500	2.36	5.34	6.89	10.04	3.16						
QR0460138N7R02	46.0	1.813	0.084	1.500	2.36	5.44	7.01	10.16	3.16	SOMT150510	SM50-113-20	DS-0034	45.0-50.0	PF-0015	PP04-01
QR0476143N7R02	47.6	1.875	0.084	1.500	2.36	5.63	7.24	10.39	3.16						
QR0492148N7R02	49.2	1.937	0.084	1.500	2.36	5.81	7.36	10.51	3.16						
QR0500150N7R02	50.0	1.969	0.084	1.500	2.36	5.91	7.48	10.63	3.16						
QR0508152N7R02	50.8	2.000	0.084	1.500	2.36	6.00	7.60	10.75	3.16						

Note: Metric bodies also available. Please see ecat for more information.

QR SERIES 4XD INDEXABLE DRILL (-R02 SHANK)

NOTE: Coolant fittings PF0012, PF0013 & PF0015 are ordered separately.

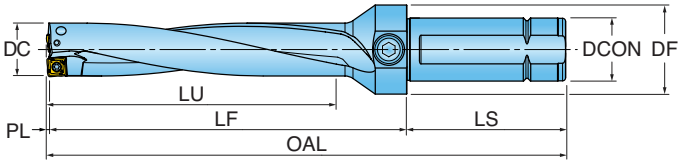


4xD Bodies	Dimensions (inch)														
Drill Number	DC (mm)	DC (inch)	PL	DCON	DF	LU	LF	OAL	LS	Insert	Screw	Torx	Torque (in. lbs.)	Coolant Fitting	Flange Plug
NEW QR0127051N5R02	12.7	0.500	0.032	1.000	1.26	2.05	3.07	6.22	3.16	SOMT 040204	SM18-041-00	DS-TP06S-NEU	3.5-4.4	PF-0012	PP02-01
NEW QR0135054N5R02	13.5	0.531	0.032	1.000	1.26	2.20	3.23	6.38	3.16						
QR0143057N5R02	14.3	0.563	0.030	1.000	1.26	2.25	3.23	6.38	3.16						
QR0150060N5R02	15.0	0.591	0.030	1.000	1.26	2.37	3.43	6.58	3.16	SOMT050204	SM20-043-00	DS-TP06S-NEU	5.0-9.0	PF-0012	PP02-01
QR0159064N5R02	15.9	0.626	0.030	1.000	1.26	2.50	3.62	6.77	3.16						
QR0167067N5R02	16.7	0.658	0.033	1.000	1.26	2.63	3.78	6.93	3.16						
QR0175070N5R02	17.5	0.689	0.033	1.000	1.26	2.75	3.98	7.13	3.16	SOMT060204	TS 22052I/HG-P	DS-TP07S	7.0-11.0	PF-0012	PP02-01
QR0183073N5R02	18.3	0.721	0.033	1.000	1.26	2.87	3.98	7.13	3.16						
QR0191076N5R02	19.1	0.750	0.033	1.000	1.26	3.00	4.13	7.28	3.16						
QR0198079N5R02	19.8	0.781	0.045	1.000	1.26	3.13	4.37	7.52	3.16						
QR0206082N5R02	20.6	0.813	0.045	1.000	1.26	3.25	4.53	7.68	3.16	SOMT070306	TS 22052I/HG-P	DS-TP07S	7.0-11.0	PF-0012	PP02-01
QR0214086N5R02	21.4	0.843	0.045	1.000	1.26	3.37	4.69	7.84	3.16						
QR0222089N5R02	22.2	0.875	0.045	1.000	1.26	3.50	4.69	7.84	3.16						
QR0230092N6R02	23.0	0.906	0.049	1.250	1.77	3.62	5.00	8.15	3.16						
QR0238095N6R02	23.8	0.938	0.049	1.250	1.77	3.75	5.20	8.35	3.16						
QR0246098N6R02	24.6	0.969	0.049	1.250	1.77	3.87	5.39	8.54	3.16	SOMT08T306	SO 25065I	HZS.0004	7.0-11.0	PF-0013	PP04-01
QR0250100N6R02	25.0	0.984	0.049	1.250	1.77	3.94	5.39	8.54	3.16						
QR0254102N6R02	25.4	1.000	0.049	1.250	1.77	4.00	5.55	8.70	3.16						
QR0262105N6R02	26.2	1.031	0.049	1.250	1.77	4.13	5.55	8.70	3.16						
QR0270108N6R02	27.0	1.063	0.059	1.250	1.77	4.25	5.71	8.86	3.16						
QR0278111N6R02	27.8	1.094	0.059	1.250	1.77	4.38	5.71	9.06	3.16						
QR0286114N6R02	28.6	1.125	0.059	1.250	1.77	4.50	5.87	9.21	3.16	SOMT09T308	SM35-088-60	DS-T10S	25.0-30.0	PF-0013	PP04-01
QR0294118N6R02	29.4	1.156	0.059	1.250	1.77	4.62	5.87	9.49	3.16						
QR0302120N6R02	30.2	1.187	0.059	1.250	1.77	4.75	6.02	9.49	3.16						
QR0310124N6R02	31.0	1.219	0.059	1.250	1.77	4.87	6.18	9.69	3.16						
QR0318127N6R02	31.8	1.250	0.066	1.250	1.77	5.00	6.42	9.84	3.16						
QR0325130N6R02	32.5	1.281	0.066	1.250	1.77	5.13	6.57	10.04	3.16						
QR0333133N6R02	33.3	1.312	0.066	1.250	1.77	5.25	6.57	10.04	3.16	SOMT11T308	SM35-088-60	DS-T10S	25.0-30.0	PF-0013	PP04-01
QR0341136N6R02	34.1	1.343	0.066	1.250	1.77	5.37	6.73	10.19	3.16						
QR0349140N6R02	34.9	1.375	0.066	1.250	1.77	5.50	6.89	10.39	3.16						
QR0357143N6R02	35.7	1.406	0.066	1.250	1.77	5.62	7.05	10.59	3.16						
QR0365146N6R02	36.5	1.437	0.074	1.250	2.16	5.75	7.28	10.79	3.16						
QR0373149N6R02	37.3	1.468	0.074	1.250	2.16	5.87	7.28	10.79	3.16						
QR0381152N6R02	38.1	1.500	0.074	1.250	2.16	6.00	7.44	10.98	3.16						
QR0389156N6R02	38.9	1.531	0.074	1.250	2.16	6.13	7.60	11.14	3.16	SOMT130408	SE02-82	T-15/51	30.0-35.0	PF-0013	PP04-01
QR0397159N6R02	39.7	1.562	0.074	1.250	2.16	6.25	7.76	11.34	3.16						
QR0405162N6R02	40.5	1.594	0.074	1.250	2.16	6.38	7.76	11.54	3.16						
QR0413165N6R02	41.3	1.625	0.074	1.250	2.16	6.50	7.91	11.54	3.16						
QR0428171N6R02	42.8	1.687	0.074	1.250	2.16	6.75	8.23	11.89	3.16						
QR0437175N7R02	43.7	1.719	0.084	1.500	2.36	6.87	8.50	12.05	3.16						
QR0445178N7R02	44.5	1.750	0.084	1.500	2.36	7.00	8.50	12.28	3.16						
QR0452181N7R02	45.2	1.781	0.084	1.500	2.36	7.13	8.66	12.28	3.16						
QR0460184N7R02	46.0	1.813	0.084	1.500	2.36	7.25	8.82	12.48	3.16	SOMT150510	SM50-113-20	DS-0034	45.0-50.0	PF-0015	PP04-01
QR0476190N7R02	47.6	1.875	0.084	1.500	2.36	7.50	9.13	12.84	3.16						
QR0492197N7R02	49.2	1.937	0.084	1.500	2.36	7.75	9.29	12.99	3.16						
QR0500200N7R02	50.0	1.969	0.084	1.500	2.36	7.87	9.45	13.19	3.16						
QR0508203N7R02	50.8	2.000	0.084	1.500	2.36	8.00	9.61	13.39	3.16						

Note: Metric bodies also available. Please see ecat for more information.

QR SERIES 5XD INDEXABLE DRILL (-R02 SHANK)

NOTE: Coolant fittings PF0012 & PF0013 are ordered separately.

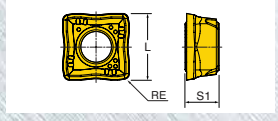


5xD Bodies	Dimensions (inch)														
Drill Number	DC (mm)	DC (inch)	PL	DCON	DF	LU	LF	OAL	LS	Insert	Screw	Torx	Torque (in. lbs.)	Coolant Fitting	Flange Plug
NEW QR0127064N5R02	12.7	0.500	0.032	1.000	1.26	2.56	3.58	6.73	3.16	SOMT 040204	SM18-041-00	DS-TP06S-NEU	3.5-4.4	PF-0012	PP02-01
NEW QR0135068N5R02	13.5	0.531	0.032	1.000	1.26	2.76	3.78	6.93	3.16						
QR0143072N5R02	14.3	0.563	0.030	1.000	1.26	2.81	3.78	6.93	3.16						
QR0150075N5R02	15.0	0.591	0.030	1.000	1.26	2.96	4.02	7.17	3.16	SOMT050204	SM20-043-00	DS-TP06S-NEU	5.0-9.0	PF-0012	PP02-01
QR0159080N5R02	15.9	0.626	0.030	1.000	1.26	3.13	4.25	7.40	3.16						
QR0167084N5R02	16.7	0.658	0.033	1.000	1.26	3.29	4.45	7.60	3.16						
QR0175088N5R02	17.5	0.689	0.033	1.000	1.26	3.44	4.69	7.83	3.16	SOMT060204	TS 22052I/HG-P	DS-TP07S	7.0-11.0	PF-0012	PP02-01
QR0183092N5R02	18.3	0.721	0.033	1.000	1.26	3.59	4.69	7.83	3.16						
QR0191095N5R02	19.1	0.750	0.033	1.000	1.26	3.75	4.88	8.03	3.16						
QR0198099N5R02	19.8	0.781	0.045	1.000	1.26	3.91	5.16	8.31	3.16						
QR0206103N5R02	20.6	0.813	0.045	1.000	1.26	4.07	5.35	8.50	3.16	SOMT070306	TS 22052I/HG-P	DS-TP07S	7.0-11.0	PF-0012	PP02-01
QR0214107N5R02	21.4	0.843	0.045	1.000	1.26	4.22	5.55	8.70	3.16						
QR0222111N5R02	22.2	0.875	0.045	1.000	1.26	4.38	5.55	8.70	3.16						
QR0230115N6R02	23.0	0.906	0.049	1.250	1.77	4.53	5.91	9.06	3.16						
QR0238119N6R02	23.8	0.938	0.049	1.250	1.77	4.69	6.14	9.29	3.16						
QR0246123N6R02	24.6	0.969	0.049	1.250	1.77	4.85	6.38	9.53	3.16	SOMT08T306	SO 25065I	HZS.0004	7.0-11.0	PF-0013	PP04-01
QR0250125N6R02	25.0	0.984	0.049	1.250	1.77	4.92	6.38	9.53	3.16						
QR0254127N6R02	25.4	1.000	0.049	1.250	1.77	5.00	6.57	9.72	3.16						
QR0262131N6R02	26.2	1.031	0.049	1.250	1.77	5.16	6.57	9.72	3.16						
QR0270135N6R02	27.0	1.063	0.059	1.250	1.77	5.31	6.61	9.76	3.16						
QR0278139N6R02	27.8	1.094	0.059	1.250	1.77	5.47	6.81	9.96	3.16						
QR0286143N6R02	28.6	1.125	0.059	1.250	1.77	5.63	7.01	10.16	3.16	SOMT09T308	SM35-088-60	DS-T10S	25.0-30.0	PF-0013	PP04-01
QR0294147N6R02	29.4	1.156	0.059	1.250	1.77	5.78	7.01	10.16	3.16						
QR0302151N6R02	30.2	1.187	0.059	1.250	1.77	5.94	7.20	10.35	3.16						
QR0310155N6R02	31.0	1.219	0.059	1.250	1.77	6.09	7.40	10.55	3.16						
QR0318159N6R02	31.8	1.250	0.066	1.250	1.77	6.25	7.68	10.83	3.16						
QR0325163N6R02	32.5	1.281	0.066	1.250	1.77	6.41	7.87	11.02	3.16						
QR0333167N6R02	33.3	1.312	0.066	1.250	1.77	6.56	7.87	11.02	3.16	SOMT11T308	SM35-088-60	DS-T10S	25.0-30.0	PF-0013	PP04-01
QR0341171N6R02	34.1	1.343	0.066	1.250	1.77	6.72	8.07	11.22	3.16						
QR0349175N6R02	34.9	1.375	0.066	1.250	1.77	6.88	8.27	11.42	3.16						
QR0357179N6R02	35.7	1.406	0.066	1.250	1.77	7.03	8.46	11.61	3.16						
QR0365182N6R02	36.5	1.437	0.074	1.250	2.16	7.19	8.74	11.89	3.16						
QR0373186N6R02	37.3	1.468	0.074	1.250	2.16	7.34	8.74	11.89	3.16						
QR0381191N6R02	38.1	1.500	0.074	1.250	2.16	7.50	8.94	12.09	3.16						
QR0389194N6R02	38.9	1.531	0.074	1.250	2.16	7.66	9.13	12.28	3.16	SOMT130408	SE02-82	T-15/51	30.0-35.0	PF-0013	PP04-01
QR0397198N6R02	39.7	1.562	0.074	1.250	2.16	7.81	9.33	12.48	3.16						
QR0405202N6R02	40.5	1.594	0.074	1.250	2.16	7.97	9.33	12.48	3.16						
QR0413206N6R02	41.3	1.625	0.074	1.250	2.16	8.13	9.53	12.68	3.16						
QR0428214N6R01	42.8	1.687	0.074	1.250	2.16	8.43	9.92	13.07	3.16						
QR0437218N7R01	43.7	1.719	0.084	1.500	2.36	8.59	10.24	13.39	3.16						
QR0445222N7R01	44.5	1.750	0.084	1.500	2.36	8.75	10.24	13.39	3.16						
QR0452226N7R01	45.2	1.781	0.084	1.500	2.36	8.91	10.43	13.58	3.16						
QR0460230N7R01	46.0	1.813	0.084	1.500	2.36	9.06	10.63	13.78	3.16	SOMT150510	SM50-113-20	DS-0034	45.0-50.0	PF-0015	PP04-01
QR0476238N7R01	47.6	1.875	0.084	1.500	2.36	9.37	11.02	14.17	3.16						
QR0492246N7R01	49.2	1.937	0.084	1.500	2.36	9.69	11.22	14.37	3.16						
QR0500250N7R01	50.0	1.969	0.084	1.500	2.36	9.84	11.42	14.57	3.16						
QR0508254N7R01	50.8	2.000	0.084	1.500	2.36	10.00	11.61	14.76	3.16						

Note: Metric bodies also available. Please see ecat for more information.

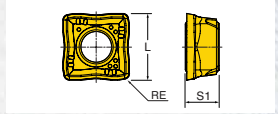
INSERTS

- SK



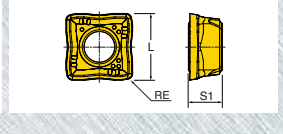
GRADE: IN2505
For General Purpose

- SK



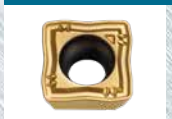
GRADE: IN6505
For Steel Applications
For Peripheral Pockets Only

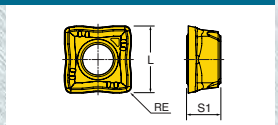
- SK



GRADE: IN1030
For Cast Iron, Stainless
and Titanium Applications

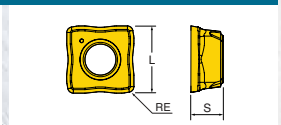
- NG





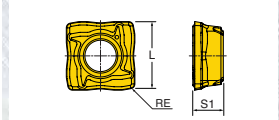
GRADE: IN2510
For Cast Iron

- HP



GRADE: IN10K
For Aluminum

- PS



GRADE: IN2505
For Low Carbon and Mild Steel Applications

Designation	Dimension (inch) L	S1 / S	RE	Tool Dia. Range Min-Max	Carbide Grades IN1030	IN2505	IN6505	IN2510	IN10K
NEW SOMT 040204 SK	0.173	0.100	0.016	12.0mm(.472") - 13.5mm(.531")	■	■			
SOMT 050204 SK	0.193	0.100	0.016	14.3mm(.563") - 15.9mm(.626")	■	■	■		
SOMT 060204 SK	0.224	0.100	0.016	16.7mm(.658") - 19.05mm(.750")	■	■	■		
SOMT 070306 SK	0.268	0.114	0.024	19.8mm(.780") - 22.22mm(.875")	■	■	■		
SOMT 08T306 SK	0.311	0.164	0.024	23.0mm(.906") - 26.2mm(1.031")	■	■	■		
SOMT 09T308 SK	0.362	0.166	0.031	27.0mm(1.063") - 31.0mm(1.219")	■	■	■		
SOMT 11T308 SK	0.433	0.166	0.031	31.8mm(1.250") - 35.7mm(1.406")	■	■	■		
SOMT 130408 SK	0.504	0.183	0.031	36.5mm(1.437") - 42.8mm(1.687")	■	■	■		
SOMT 150510 SK	0.590	0.199	0.039	43.7mm(1.720") - 50.8mm(2.000")	■	■	■		
SOMT 050204 NG	0.193	0.100	0.016	14.3mm(.563") - 15.9mm(.626")				■	
SOMT 060204 NG	0.224	0.100	0.016	16.7mm(.658") - 19.05mm(.750")				■	
SOMT 070306 NG	0.268	0.114	0.024	19.8mm(.780") - 22.22mm(.875")				■	
SOMT 08T306 NG	0.311	0.164	0.024	23.0mm(.906") - 26.2mm(1.031")				■	
SOMT 09T308 NG	0.362	0.166	0.031	27.0mm(1.063") - 31.0mm(1.219")				■	
SOMT 11T308 NG	0.433	0.166	0.031	31.8mm(1.250") - 35.7mm(1.406")				■	
SOMT 130408 NG	0.504	0.183	0.031	36.5mm(1.437") - 42.8mm(1.687")				■	
SOMT 150510 NG	0.590	0.199	0.039	43.7mm(1.720") - 50.8mm(2.000")				■	
SOMT 050204 HP	0.193	0.094	0.016	14.3mm(.563") - 15.9mm(.626")					■
SOMT 060204 HP	0.224	0.094	0.016	16.7mm(.658") - 19.05mm(.750")					■
SOMT 070306 HP	0.268	0.110	0.024	19.8mm(.780") - 22.22mm(.875")					■
SOMT 08T306 HP	0.311	0.156	0.024	23.0mm(.906") - 26.2mm(1.031")					■
SOMT 09T308 HP	0.362	0.156	0.031	27.0mm(1.063") - 31.0mm(1.219")					■
SOMT 11T308 HP	0.433	0.156	0.031	31.8mm(1.250") - 35.7mm(1.406")					■
SOMT 130408 HP	0.504	0.173	0.031	36.5mm(1.437") - 42.8mm(1.687")					■
SOMT 150510 HP	0.590	0.189	0.039	43.7mm(1.720") - 50.8mm(2.000")					■
NEW SOMT 050204 PS	0.193	0.100	0.016	14.3mm (.563") - 15.9mm (.626")		■			
NEW SOMT 060204 PS	0.224	0.100	0.016	16.7mm (.658") - 19.05mm (.750")		■			
NEW SOMT 070306 PS	0.268	0.114	0.024	19.8mm (.780") - 22.22mm (.875")		■			
NEW SOMT 08T306 PS	0.311	0.164	0.024	23.0mm (.906") - 26.2mm (1.031")		■			
NEW SOMT 09T308 PS	0.362	0.166	0.031	27.0mm (1.063") - 31.0mm (1.219")		■			
NEW SOMT 11T308 PS	0.433	0.166	0.031	31.8mm (.1.250") - 35.7mm (1.406")		■			
NEW SOMT 130408 PS	0.504	0.183	0.031	36.5mm (1.437") - 42.8mm (1.687")		■			
NEW SOMT 150510 PS	0.590	0.199	0.039	43.7mm (1.720" - 50.8mm (2.000")		■			

-SK, -NG, -HP CHIPBREAKERS - 2xD, 3xD, 4xD RECOMMENDED CUTTING CONDITIONS

ISO	Material	Condition	Tensile Strength Rm (N/mm²)	Hardness (HB)	Matl No.	Cutting Speed Vc (SFM)	Feed v.s. Drill Diameter In/Rev Drill Length 2, 3, 4xD								
							SOMT 04 Ø.472-.531 (inch)	SOMT 05 Ø.551-.645 (inch)	SOMT 06 Ø.649-.763 (inch)	SOMT 07 Ø.767-.882 (inch)	SOMT 08 Ø.886-1.039 (inch)	SOMT 09 Ø 1.063-1.220 (inch)	SOMT 11 Ø 1.250-1.460 (inch)	SOMT 13 Ø 1.437-1.687 (inch)	SOMT 15 Ø 1.719-2.000 (inch)
P	Non-alloy steel <0.25% C & cast steel, > = 0.25% C free cutting <0.55% C steel > = 0.55% C	Annealed	420	125	1	700 -1200	.002-.003	.002-.003	.002-.003	.002-.004	.002-.004	.003-.004	.003-.005	.003-.005	.003-.005
		Annealed	650	190	2	600 - 950	.003-.004	.003-.004	.003-.004	.003-.005	.003-.005	.003-.006	.003-.006	.003-.0065	.003-.0065
		Quenched & Tempered	850	250	3	450 - 800	.003-.005	.003-.005	.003-.005	.003-.006	.003-.006	.004-.006	.004-.006	.004-.007	.004-.007
		Annealed	750	220	4	450 - 800	.003-.005	.003-.005	.003-.005	.003-.006	.003-.006	.004-.007	.004-.007	.004-.007	.004-.007
		Quenched & Tempered	1000	300	5	450 - 800	.003-.005	.003-.005	.003-.005	.003-.006	.003-.006	.004-.007	.004-.007	.004-.007	.004-.007
	Low alloy steel & cast steek (less than 5% alloying elements)	Annealed	600	200	6	450 - 800	.003-.006	.003-.006	.003-.006	.003-.007	.003-.007	.004-.007	.004-.009	.004-.009	.004-.0095
		Quenched & Tempered	930	275	7	325 - 600	.003-.006	.003-.006	.003-.006	.003-.008	.003-.008	.004-.008	.004-.0085	.004-.0085	.004-.0085
			1000	300	8	325 - 600	.003-.006	.003-.006	.003-.006	.003-.008	.003-.008	.004-.008	.004-.0085	.004-.0085	.004-.0085
			1200	350	9	325 - 600	.003-.006	.003-.006	.003-.006	.003-.008	.003-.008	.004-.008	.004-.0085	.004-.0085	.004-.0085
	High alloy steel, cast steel, & tool steel	Annealed	680	200	10	450 - 675	.002-.005	.002-.005	.0025-.005	.0025-.005	.003-.006	.004-.007	.004-.007	.004-.008	.004-.008
		Quenched & Tempered	1100	325	11	325 - 525	.0025-.005	.0025-.005	.0025-.005	.003-.006	.003-.006	.0035-.007	.0035-.008	.004-.008	.004-.008
M	Stainless steel & cast stainless steel	Ferritic/ martensitic	680	200	12	500 - 800	.0025-.005	.0025-.005	.0025-.005	.003-.006	.003-.006	.003-.007	.0035-.008	.004-.008	.004-.008
		Martensitic	820	240	13	500 - 800	.0025-.005	.0025-.005	.0025-.005	.003-.006	.003-.006	.003-.007	.0035-.008	.004-.008	.004-.008
		Austenitic	600	180	14	500 - 800	.0025-.005	.0025-.005	.0025-.005	.003-.006	.003-.006	.003-.007	.0035-.008	.004-.008	.004-.008
K	GreyCast Iron (GG)	Ferritic		160	15	525 - 850	.003-.007	.003-.007	.003-.007	.004-.008	.004-.008	.004-.008	.004-.008	.004-.0085	.004-.0085
		Pearlitic		250	16	525 - 850	.003-.007	.003-.007	.003-.007	.004-.008	.004-.008	.004-.008	.004-.008	.004-.0085	.004-.0085
	Cast Iron Nodular (GGG)	Ferritic		180	17	525 - 850	.003-.007	.003-.007	.003-.007	.004-.008	.004-.008	.004-.008	.004-.008	.004-.0085	.004-.0085
		Pearlitic		260	18	525 - 850	.003-.007	.003-.007	.003-.007	.004-.008	.004-.008	.004-.008	.004-.008	.004-.0085	.004-.0085
	Malleable Cast Iron	Ferritic		130	19	400 - 725	.003-.0055	.003-.0055	.003-.0055	.004-.006	.004-.006	.004-.0065	.004-.007	.004-.007	.004-.007
		Pearlitic		230	20	400 - 725	.003-.0055	.003-.0055	.003-.0055	.004-.006	.004-.006	.004-.0065	.004-.007	.004-.007	.004-.007
N	Aluminum - wrought alloy	Not cureable		60	21	650 - 1150	.0025-.006	.0025-.006	.0025-.006	.003-.0065	.003-.0065	.0035-.007	.0035-.007	.004-.0075	.004-.0075
		Cured		100	22	650 - 1150	.0025-.006	.0025-.006	.0025-.006	.003-.0065	.003-.0065	.0035-.007	.0035-.007	.004-.0075	.004-.0075
	Aluminum - cast, alloyed <=12% Si / >12% Si	Not cureable		75	23	650 - 1150	.0025-.006	.0025-.006	.0025-.006	.003-.0065	.003-.0065	.0035-.007	.0035-.007	.004-.0075	.004-.0075
		Cured		90	24	650 - 1150	.0025-.006	.0025-.006	.0025-.006	.003-.0065	.003-.0065	.0035-.007	.0035-.007	.004-.0075	.004-.0075
		High temperature		130	25	650 - 1150	.0025-.006	.0025-.006	.0025-.006	.003-.0065	.003-.0065	.0035-.007	.0035-.007	.004-.0075	.004-.0075
	Copper alloys > 1% Pb	Free cutting		110	26	490 - 825	.0025-.006	.0025-.006	.0025-.006	.003-.0065	.003-.0065	.004-.007	.004-.007	.004-.008	.004-.008
		Brass		90	27	490 - 825	.0025-.006	.0025-.006	.0025-.006	.003-.0065	.003-.0065	.004-.007	.004-.007	.004-.008	.004-.008
		Electrolitic copper		100	28	490 - 825	.0025-.006	.0025-.006	.0025-.006	.003-.0065	.003-.0065	.004-.007	.004-.007	.004-.008	.004-.008
	Non-metallic	Duro & fiber plastics			29	490 - 825	.0025-.006	.0025-.006	.0025-.006	.003-.0065	.003-.0065	.004-.007	.004-.007	.004-.008	.004-.008
		Hard rubber			30	490 - 825	.0025-.006	.0025-.006	.0025-.006	.003-.0065	.003-.0065	.004-.007	.004-.007	.004-.008	.004-.008
S	High temp alloys Fe based / Ni or Co based	Annealed		200	31	100 - 200	.002-.003	.002-.003	.002-.003	.002-.0035	.002-.0035	.003-.004	.003-.004	.003-.005	.003-.005
		Cured		280	32	100 - 200	.002-.003	.002-.003	.002-.003	.002-.0035	.002-.0035	.003-.004	.003-.004	.003-.005	.003-.005
		Annealed		250	33	100 - 200	.002-.003	.002-.003	.002-.003	.002-.0035	.002-.0035	.003-.004	.003-.004	.003-.005	.003-.005
		Cured		350	34	100 - 200	.002-.003	.002-.003	.002-.003	.002-.0035	.002-.0035	.003-.004	.003-.004	.003-.005	.003-.005
		Cast		320	35	100 - 200	.002-.003	.002-.003	.002-.003	.002-.0035	.002-.0035	.003-.004	.003-.004	.003-.005	.003-.005
	Titanium, Ti alloys		Rm 400		36	165 - 265	.0025-.0035	.0025-.0035	.0025-.0035	.003-.004	.003-.004	.003-.004	.003-.004	.003-.004	.003-.004
		Alpha+beta alloys cured	Rm 1050		37	165 - 265	.0025-.0035	.0025-.0035	.0025-.0035	.003-.004	.003-.004	.003-.004	.003-.004	.003-.004	.003-.004
H	Hardened steel	Hardened		55 HRC	38	100 - 200	.002-.0035	.002-.0035	.002-.0035	.002-.004	.002-.004	.002-.0045	.002-.0045	.002-.0045	.002-.0045
		Hardened		60 HRC	39	100 - 200	.002-.0035	.002-.0035	.002-.0035	.002-.004	.002-.004	.002-.0045	.002-.0045	.002-.0045	.002-.0045
	Chilled cast iron	Cast		400	40	100 - 200	.002-.0035	.002-.0035	.002-.0035	.002-.004	.002-.004	.002-.0045	.002-.0045	.002-.0045	.002-.0045
	Cast iron nodular	Hardened		55 HRC	41	100 - 200	.002-.0035	.002-.0035	.002-.0035	.002-.004	.002-.004	.002-.0045	.002-.0045	.002-.0045	.002-.0045

-SK, -NG, -HP CHIPBREAKERS - 5xD RECOMMENDED CUTTING CONDITIONS

ISO	Material	Condition	Tensile Strength Rm (N/mm²)	Hardness (HB)	Matl No.	Cutting Speed Vc (SFM)	Feed v.s. Drill Diameter In/Rev Drill Length 5xD							
							SOMT 04 Ø.472-.531 (inch)	SOMT 05 Ø.551-.645 (inch)	SOMT 06 Ø.649-.763 (inch)	SOMT 07 Ø.767-.882 (inch)	SOMT 08 Ø.886-1.039 (inch)	SOMT 09 Ø 1.063-1.220 (inch)	SOMT 11 Ø 1.250-1.460 (inch)	SOMT 13 Ø 1.437-1.687 (inch)	SOMT 15 Ø 1.719-2.000 (inch)
P	Non-alloy steel <0.25% C & cast steel, > = 0.25% C free cutting <0.55% C steel > = 0.55% C	Annealed	420	125	1	700 -1200	.002-.003	.0015-.002	.0015-.002	.0015-.002	.0015-.002	.0025-.0035	.0025-.0035	.0025-.004	.0025-.004
		Annealed	650	190	2	600 - 950	.003-.004	.002-.003	.002-.003	.002-.004	.002-.004	.003-.005	.003-.005	.003-.0055	.003-.0055
		Quenched & Tempered	850	250	3	450 - 800	.003-.005	.002-.004	.002-.004	.003-.005	.003-.005	.003-.007	.003-.006	.004-.007	.004-.007
		Annealed	750	220	4	450 - 800	.003-.005	.002-.004	.002-.004	.003-.005	.003-.005	.003-.007	.003-.006	.004-.007	.004-.007
		Quenched & Tempered	1000	300	5	450 - 800	.003-.005	.002-.004	.002-.004	.003-.005	.003-.005	.003-.007	.003-.006	.004-.007	.004-.007
	Low alloy steel & cast steek (less than 5% alloying elements)	Annealed	600	200	6	450 - 800	.003-.006	.002-.005	.002-.005	.003-.006	.003-.006	.003-.007	.003-.008	.003-.008	.004-.0085
		Quenched & Tempered	930	275	7	325 - 600	.003-.006	.002-.005	.002-.005	.003-.006	.003-.006	.003-.007	.003-.008	.003-.008	.004-.0085
			1000	300	8	325 - 600	.003-.006	.002-.005	.002-.005	.003-.006	.003-.006	.003-.007	.003-.008	.003-.008	.004-.0085
			1200	350	9	325 - 600	.003-.006	.002-.005	.002-.005	.003-.006	.003-.006	.003-.007	.003-.008	.003-.008	.004-.0085
	High alloy steel, cast steel, & tool steel	Annealed	680	200	10	450 - 675	.002-.005	.002-.004	.002-.004	.003-.005	.003-.005	.003-.006	.003-.007	.003-.007	.004-.008
		Quenched & Tempered	1100	325	11	325 - 525	.0025-.005	.002-.004	.002-.004	.003-.005	.003-.005	.003-.006	.003-.007	.004-.007	.004-.008
M	Stainless steel & cast stainless steel	Ferritic/ martensitic	680	200	12	500 - 800	.0025-.005	.002-.004	.002-.004	.003-.005	.003-.005	.003-.006	.003-.007	.004-.007	.004-.008
		Martensitic	820	240	13	500 - 800	.0025-.005	.002-.004	.002-.004	.003-.005	.003-.005	.003-.006	.003-.007	.004-.007	.004-.008
		Austenitic	600	180	14	500 - 800	.0025-.005	.002-.004	.002-.004	.003-.005	.003-.005	.003-.006	.003-.007	.004-.007	.004-.008
K	GreyCast Iron (GG)	Ferritic		160	15	525 - 850	.003-.007	.003-.0055	.003-.0055	.003-.006	.003-.006	.004-.007	.004-.007	.004-.008	.004-.008
		Pearlitic		250	16	525 - 850	.003-.007	.003-.0055	.003-.0055	.003-.006	.003-.006	.004-.007	.004-.007	.004-.008	.004-.008
	Cast Iron Nodular (GGG)	Ferritic		180	17	525 - 850	.003-.007	.003-.0055	.003-.0055	.003-.006	.003-.006	.004-.007	.004-.007	.004-.008	.004-.008
		Pearlitic		260	18	525 - 850	.003-.007	.003-.0055	.003-.0055	.003-.006	.003-.006	.004-.007	.004-.007	.004-.008	.004-.008
	Malleable Cast Iron	Ferritic		130	19	400 - 725	.003-.0055	.0025-.0045	.0025-.0045	.003-.0055	.003-.0055	.004-.006	.004-.006	.004-.0065	.004-.0065
		Pearlitic		230	20	400 - 725	.003-.0055	.0025-.0045	.0025-.0045	.003-.0055	.003-.0055	.004-.006	.004-.006	.004-.0065	.004-.0065
N	Aluminum - wrought alloy	Not cureable		60	21	650 - 1150	.0025-.006	.002-.0055	.002-.0055	.0025-.006	.0025-.006	.003-.006	.003-.006	.0035-.007	.0035-.007
		Cured		100	22	650 - 1150	.0025-.006	.002-.0055	.002-.0055	.0025-.006	.0025-.006	.003-.006	.003-.006	.0035-.007	.0035-.007
	Aluminum - cast, alloyed <=12% Si / >12% Si	Not cureable		75	23	650 - 1150	.0025-.006	.002-.0055	.002-.0055	.0025-.006	.0025-.006	.003-.006	.003-.006	.0035-.007	.0035-.007
		Cured		90	24	650 - 1150	.0025-.006	.002-.0055	.002-.0055	.0025-.006	.0025-.006	.003-.006	.003-.006	.0035-.007	.0035-.007
		High temperature		130	25	650 - 1150	.0025-.006	.002-.0055	.002-.0055	.0025-.006	.0025-.006	.003-.006	.003-.006	.0035-.007	.0035-.007
	Copper alloys > 1% Pb	Free cutting		110	26	490 - 825	.0025-.006	.002-.0055	.002-.0055	.003-.006	.003-.006	.003-.0065	.003-.0065	.0035-.0075	.0035-.0075
		Brass		90	27	490 - 825	.0025-.006	.002-.0055	.002-.0055	.003-.006	.003-.006	.003-.0065	.003-.0065	.0035-.0075	.0035-.0075
		Electrolitic copper		100	28	490 - 825	.0025-.006	.002-.0055	.002-.0055	.003-.006	.003-.006	.003-.0065	.003-.0065	.0035-.0075	.0035-.0075
	Non-metallic	Duro & fiber plastics			29	490 - 825	.0025-.006	.002-.0055	.002-.0055	.0025-.006	.0025-.006	.003-.006	.0035-.006	.0035-.0075	.0035-.0075
		Hard rubber			30	490 - 825	.0025-.006	.002-.0055	.002-.0055	.0025-.006	.0025-.006	.003-.006	.0035-.006	.0035-.0075	.0035-.0075
S	High temp alloys Fe based / Ni or Co based	Annealed		200	31	100 - 200	.002-.003	.0015-.0025	.0015-.0025	.0015-.0025	.0015-.0025	.0025-.0035	.0025-.0035	.0025-.004	.0025-.004
		Cured		280	32	100 - 200	.002-.003	.0015-.0025	.0015-.0025	.0015-.0025	.0015-.0025	.0025-.0035	.0025-.0035	.0025-.004	.0025-.004
		Annealed		250	33	100 - 200	.002-.003	.0015-.0025	.0015-.0025	.0015-.0025	.0015-.0025	.0025-.0035	.0025-.0035	.0025-.004	.0025-.004
		Cured		350	34	100 - 200	.002-.003	.0015-.0025	.0015-.0025	.0015-.0025	.0015-.0025	.0025-.0035	.0025-.0035	.0025-.004	.0025-.004
		Cast		320	35	100 - 200	.002-.003	.0015-.0025	.0015-.0025	.0015-.0025	.0015-.0025	.0025-.0035	.0025-.0035	.0025-.004	.0025-.004
	Titanium, Ti alloys		Rm 400		36	165 - 265	.0025-.0035	.002-.003	.002-.003	.0025-.0035	.0025-.0035	.0025-.0035	.0025-.0035	.0025-.0035	.0025-.0035
		Alpha+beta alloys cured	Rm 1050		37	165 - 265	.0025-.0035	.002-.003	.002-.003	.0025-.0035	.0025-.0035	.0025-.0035	.0025-.0035	.0025-.0035	.0025-.0035
H	Hardened steel	Hardened		55 HRC	38	100 - 200	.002-.0035	.0015-.003	.0015-.003	.0015-.0035	.0015-.0035	.0015-.004	.0015-.004	.0015-.004	.0015-.004
		Hardened		60 HRC	39	100 - 200	.002-.0035	.0015-.003	.0015-.003	.0015-.0035	.0015-.0035	.0015-.004	.0015-.004	.0015-.004	.0015-.004
	Chilled cast iron	Cast		400	40	100 - 200	.002-.0035	.0015-.003	.0015-.003	.0015-.0035	.0015-.0035	.0015-.004	.0015-.004	.0015-.004	.0015-.004
	Cast iron nodular	Hardened		55 HRC	41	100 - 200	.002-.0035	.0015-.003	.0015-.003	.0015-.0035	.0015-.0035	.0015-.004	.0015-.004	.0015-.004	.0015-.004

Note: For 5xD, reduce feed rate by 40% for first .150" to stabilize and then up to 100% programmed feed.

-PS CHIPBREAKER - 2xD, 3xD, 4xD, 5xD RECOMMENDED CUTTING CONDITIONS

ISO	Material	Condition	Tensile Strength Rm (N/mm²)	Hardness (HB)	Matl No.	Cutting Speed Vc (SFM)	Feed vs. Drill Diameter In/Rev Drill Length 2, 3, 4, 5xD							
							SOMT 05 Ø.551-.645 (inch)	SOMT 06 Ø.649-.763 (inch)	SOMT 07 Ø.767-.882 (inch)	SOMT 08 Ø.886-1.039 (inch)	SOMT 09 Ø 1.063-1.220 (inch)	SOMT 11 Ø 1.250-1.460 (inch)	SOMT 13 Ø 1.437-1.687 (inch)	SOMT 15 Ø 1.719-2.000 (inch)
P	Non-alloy steel <0.25% C & cast steel, > = 0.25% C free cutting <0.55% C steel > = 0.55% C	Annealed	420	125	1	700 -1200	.0015-.003	.0015-.003	.0025-.004	.0025-.004	.0025-.005	.0025-.005	.0025-.005	.0025-.005
		Annealed	650	190	2	600 - 950	.0025-.004	.0025-.004	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005
		Quenched & Tempered	850	250	3	450 - 800	.0025-.005	.0025-.005	.0025-.006	.0025-.006	.0025-.006	.0025-.006	.0025-.006	.0025-.006
		Annealed	750	220	4	450 - 800	.0025-.005	.0025-.005	.0025-.006	.0025-.006	.0025-.006	.0025-.006	.0025-.006	.0025-.006
		Quenched & Tempered	1000	300	5	450 - 800	.0025-.005	.0025-.005	.0025-.006	.0025-.006	.0025-.006	.0025-.006	.0025-.006	.0025-.006
	Low alloy steel & cast steek (less than 5% alloying elements)	Annealed	600	200	6	450 - 800	.0025-.005	.0025-.005	.0025-.006	.0025-.006	.0025-.006	.0025-.006	.0025-.006	.0025-.006
		Quenched & Tempered	930	275	7	325 - 600	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005
			1000	300	8	325 - 600	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005
			1200	350	9	325 - 600	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005
	High alloy steel, cast steel, & tool steel	Annealed	680	200	10	450 - 675	.0025-.004	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005
		Quenched & Tempered	1100	325	11	325 - 525	.0025-.004	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005	.0025-.005

-PS CHIPBREAKER - CASE STUDY

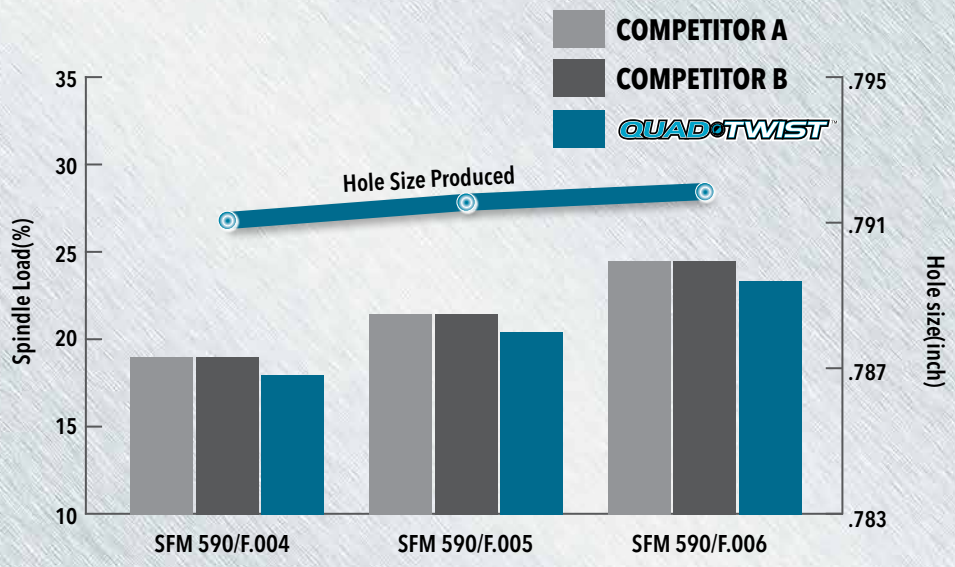
Machine		Vertical machining center (Spindle-CAT50)		
Coolant		Internal (145 psi)		
Workpiece Material		Low carbon steel (1115)		
Drill Body		QR0222089N5R02		
Inserts		**SOMT 070306 PS IN2505** **SOMT 070306 SK IN2505**		
Depth of Cut	ap (inch)	2.00"		
Cutting Speed	V (sfm)	590	656	721
Feed Rate	f (ipr)	.004"		

PS			
SK			

-SK CHIPBREAKER - CASE STUDY

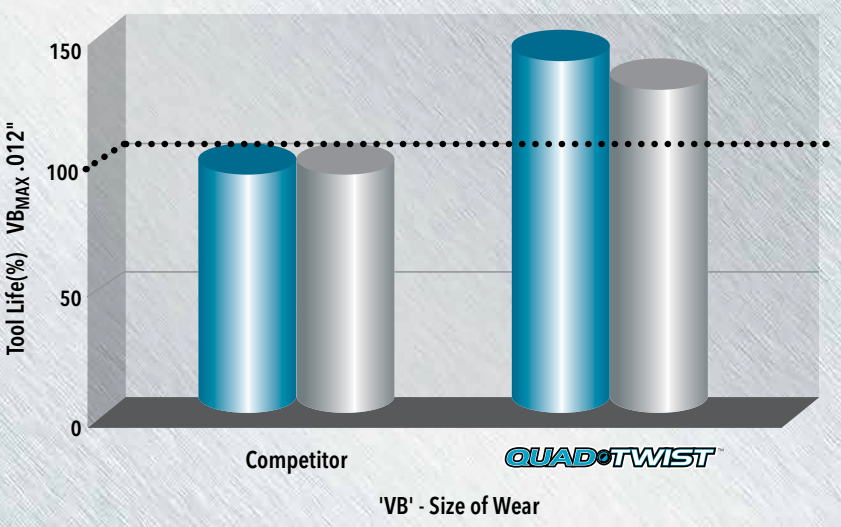
SPINDLE LOAD COMPARISON

- Machine: Machining Center (Vertical/BT50)
- Material: Alloy Steel (AISI 4140)
- Tool: .787" X 4D (SOMT 070306 SK IN2505)
- Coolant supply: Internal coolant (145PSI)



TOOL LIFE COMPARISON

- Machine: Machining Center (Vertical/BT50)
- Material: Alloy Steel (AISI 4140)
- Tool: .709" X 3D (SOMT 060204 SK IN2505)



TEST #1
TEST #2

CUTTING CONDITION

- Speed(V): 590 SFM
- Feed(f): .005 in/rev
- Depth(Ap): 2.0 in
- Internal coolant: 145 PSI

AVAILABILITY
In stock.

PRICE
Available in the GAL system.