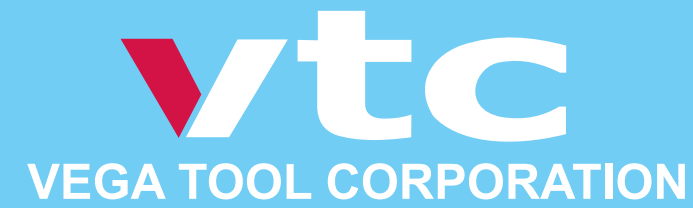
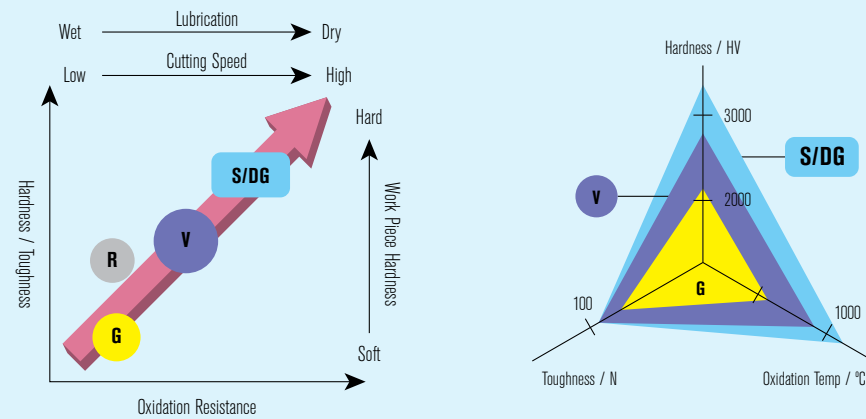


S/DG COATING

Advantage of S/DG Coating

- Extremely Hard (Up to 3600 Hv)
- Oxidation Resistant (Up to 1200°C)
- Fine Grain Size (Less than 10µm)
- Better Surface Roughness



Vega Tool Corporation
735 East Remington Road
Schaumburg, IL 60173
Phone: 800.228.2969
Fax: 847.882.9056
www.vega-tool.com

SOLID CARBIDE DEEP BALL END MILLS

- S/DG Coating for machining high hardness materials
- Special ball nose geometry for semi-finishing and finishing
- Extended neck lengths ideal for deep cavity work
- Standard sizes in stock from 0.2 to 6.0mm

Recommended Cutting Conditions

Work Material Hardness	Stainless Steels, Prehardened Steels (35-45 HRC)					Hardened Steel (45 - 55 HRC)				
	Tool Diameter	Neck Length (mm)	RPM	IN/MIN	AA (INCH)	AR (INCH)	RPM	IN/MIN	AA (INCH)	AR (INCH)
0.6	2	2	32,000	11.8	0.0012	0.0047	32,000	11.8	0.0012	0.0024
	4	4	24,000	7.9	0.0012	0.0047	24,000	7.9	0.0012	0.0024
	6	6	20,000	5.9	0.0012	0.0047	20,000	5.9	0.0008	0.0012
0.8	4	4	21,000	11.8	0.0016	0.0063	21,000	11.8	0.0016	0.0031
	6	6	19,000	7.9	0.0016	0.0047	19,000	7.9	0.0008	0.0016
	10	10	17,000	5.9	0.0016	0.0047	17,000	5.9	0.0008	0.0016
1.0	4	4	21,000	11.8	0.0020	0.0079	21,000	11.8	0.0020	0.0039
	6	6	16,000	7.9	0.0020	0.0079	16,000	7.9	0.0020	0.0039
	8	8	16,000	7.9	0.0020	0.0079	16,000	7.9	0.0012	0.0020
	12	12	14,000	5.9	0.0012	0.0039	14,000	5.9	0.0004	0.0012
	20	20	10,000	5.9	0.0012	0.0039	10,000	5.9	0.0004	0.0012
1.5	12	12	12,000	9.8	0.0031	0.0091	12,000	9.8	0.0031	0.0059
	16	16	9,500	5.9	0.0020	0.0059	9,500	5.9	0.0004	0.0020
2.0	8	8	13,500	19.7	0.0039	0.0157	13,500	19.7	0.0039	0.0079
	12	12	10,000	11.8	0.0039	0.0157	10,000	11.8	0.0039	0.0079
	16	16	10,000	11.8	0.0039	0.0118	10,000	11.8	0.0024	0.0039
	20	20	8,000	7.9	0.0039	0.0118	8,000	7.9	0.0024	0.0039
	30	30	8,000	7.9	0.0039	0.0118	8,000	7.9	0.0024	0.0039
3.0	10	10	7,500	15.7	0.0059	0.0236	7,500	15.7	0.0059	0.0118
	20	20	6,500	9.8	0.0059	0.0236	6,500	9.8	0.0059	0.0118
	25	25	6,500	9.8	0.0059	0.0236	6,500	9.8	0.0035	0.0059
	30	30	6,000	7.9	0.0059	0.0236	6,000	7.9	0.0035	0.0059
4.0	16	16	6,000	15.7	0.0079	0.0315	6,000	15.7	0.0079	0.0157
	20	20	5,000	9.8	0.0079	0.0315	5,000	9.8	0.0079	0.0157
	30	30	5,000	9.8	0.0079	0.0315	5,000	9.8	0.0047	0.0079
	35	35	5,000	9.8	0.0079	0.0315	5,000	9.8	0.0047	0.0079
	40	40	4,000	7.9	0.0079	0.0315	4,000	7.9	0.0047	0.0079



DEEP BALL END MILLS

DEEP BALL END MILLS

Precision Ball Nose End Mills for Machining Hardened Steels

- S/DG Coating for machining high hardness materials
- Special ball nose geometry for semi-finishing and finishing
- Extended neck lengths ideal for deep cavity work
- Standard sizes in stock from 0.2 to 6.0mm



(Unit = mm)

PART NUMBER	DIAMETER	BALL RADIUS	NECK LENGTH	FLUTE LENGTH	NECK DIAMETER	OVERALL LENGTH	SHANK DIAMETER
GTLB2002-005	0.2	R0.1	0.5	0.15	0.17	50	4
GTLB2002-0075			0.75				
GTLB2002-010			1.0				
GTLB2003-010	0.3	R0.15	1.0	0.25	0.27	50	4
GTLB2003-015			1.5				
GTLB2003-020			2.0				
GTLB2003-030			3.0				
GTLB2004-0075	0.4	R0.2	0.75	0.3	0.37	50	4
GTLB2004-010			1.0				
GTLB2004-020			2.0				
GTLB2004-030			3.0				
GTLB2004-040			4.0				
GTLB2005-010	0.5	R0.25	1.0	0.35	0.47	50	4
GTLB2005-020			2.0				
GTLB2005-030			3.0				
GTLB2005-040			4.0				
GTLB2005-060			6.0				
GTLB2006-010	0.6	R0.3	1.0	0.4	0.57	50	4
GTLB2006-020			2.0				
GTLB2006-030			3.0				
GTLB2006-040			4.0				
GTLB2006-060			6.0				
GTLB2008-020	0.8	R0.4	2.0	0.5	0.77	50	4
GTLB2008-040			4.0				
GTLB2008-060			6.0				
GTLB2008-080			8.0				
GTLB2008-100			10.0				
GTLB2010-020	1.0	R0.5	2.0	0.5	0.96	50	4
GTLB2010-030			3.0				
GTLB2010-040			4.0				
GTLB2010-050			5.0				
GTLB2010-060			6.0				

Precision Ball Nose End Mills for Machining Hardened Steels

PART NUMBER	DIAMETER	BALL RADIUS	NECK LENGTH	FLUTE LENGTH	NECK DIAMETER	OVERALL LENGTH	SHANK DIAMETER
GTLB2010-070	1.0	R0.5	7.0	0.5	0.96	50	4
GTLB2010-080			8.0				
GTLB2010-100			10.0				
GTLB2010-120			12.0				
GTLB2010-200			20.0				
GTLB2012-040	1.2	R0.6	4.0	1.1	1.15	50	4
GTLB2012-080			8.0				
GTLB2014-080	1.4	R0.7	8.0	1.3	1.34	50	4
GTLB2015-040	1.5	R0.75	4.0	1.35	1.44	50	4
GTLB2015-060			6.0				
GTLB2015-080			8.0				
GTLB2015-100			10.0				
GTLB2015-120			12.0				
GTLB2015-160			16.0				
GTLB2020-060	2.0	R1.0	6.0	1.7	1.92	50	4
GTLB2020-080			8.0			50	
GTLB2020-100			10.0			50	
GTLB2020-120			12.0			55	
GTLB2020-130			13.0			55	
GTLB2020-160			16.0			55	
GTLB2020-200			20.0			60	
GTLB2020-300			30.0			70	
GTLB2030-080	3.0	R1.5	8.0	2.5	2.88	55	6
GTLB2030-100			10.0			55	
GTLB2030-130			13.0			60	
GTLB2030-160			16.0			60	
GTLB2030-200			20.0			65	
GTLB2030-250			25.0			70	
GTLB2030-300			30.0			75	
GTLB2030-350			35.0			80	
GTLB2040-100	4.0	R2.0	10.0	3.0	3.85	55	6
GTLB2040-160			16.0			60	
GTLB2040-200			20.0			65	
GTLB2040-300			30.0			75	
GTLB2040-350			35.0			80	
GTLB2040-400	40.0	80					
GTLB2050-200	5.0	R2.5	20.0	3.5	4.85	65	6
GTLB2050-400			40.0			80	
GTLB2060-300	6.0	R3.0	30.0	6.0	5.85	75	6