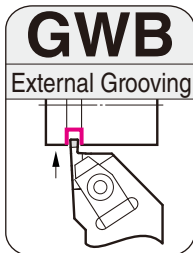


GWB Type



Hardened Steel, Shallow Grooves

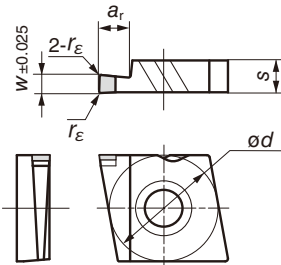
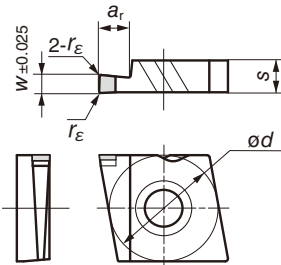
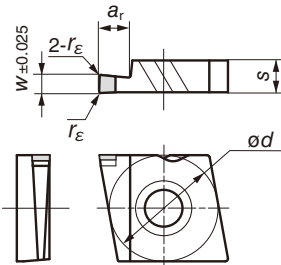


Holder

Cat. No.	Stock		Dimensions (mm)						Width of Teeth(mm)	Max. Groove Depth (mm)	App	Clamp	Cap Screw	Screw	Recommended Tightening Torque (N·m)	Spring	Wrench
	R	L	<i>h</i>	<i>b</i>	<i>L</i> ₁	<i>f</i>	<i>h</i> ₁	<i>h</i> ₂	<i>w</i>	<i>a</i> _r	Insert No.						
GWB R/L 2020-45			20	20	151 (150)	25	20	5	1.5≤ <i>w</i> ≤4.5	3.5 to 5.0	① TF-72 (Right-hand tool) TF-73 (Left-hand tool)	BX0520T	BFTX 0511N	5.0	GSP06	TRX20	
R/L 2525-45	●	●	25	25	151 (150)	30	25	—									
GWB R/L 2525-60	●	●	25	25	151	30	25	—	4.5< <i>w</i> ≤6.0	5.0	②						

Dimension in parentheses for groove width w below 3.0. * Right handed toolholders are applicable with right handed inserts.

Insert

	Cat. No.	Stock						Dimensions (mm)					Insert No.	Applicable Holder
		BN2000		BN250		BNC30G								
		R	L	R	L	R	L	w	a _r	r _ε	ød	s		
	CGA R/L 1504150	●	●	▲	▲	●	●	1.5	3.5	0.2	15.875	4.76	❶	GWB R/L 2020-45 GWB R/L 2525-45
	R/L 1504200	●	●	▲	▲	●	●	2.0	3.5					
	R/L 1504250	●	●	▲	▲	●	●	2.5	4.0					
	R/L 1504300	●	●	▲	▲	●	●	3.0	4.0					
	R/L 1504350	●	●	▲	▲	●	●	3.5	5.0					
	R/L 1504400	●	●	▲	▲	●	●	4.0	5.0					
	R/L 1504450	●	●	▲	▲	●	●	4.5	5.0					
	CGA R/L 1506500	●	●	▲	▲	●	●	5.0	5.0	0.2	15.875	6.35	❷	GWB R/L 2525-60
	R/L 1506550	●	●	▲	▲	●	●	5.5	5.0					
	R/L 1506600	●	●	▲	▲	●	●	6.0	5.0					

* It is also possible to manufacture grooving widths other than those listed above (from 1.5 to 6.0mm).

Characteristics of Grades

Grade	Application	Features	HV (GPa)	TRS (GPa)
BN2000 	Continuous Grooving	General purpose grade with superior wear resistance	31 to 34	1.0 to 1.1
BNC30G 	Interrupted Grooving	Grade suited for interrupted cutting. Features a tough substrate, and special ceramic coating that exhibits both peel-off and wear resistance.	33 to 35	1.1 to 1.2

Recommended Cutting Conditions

Cutting Conditions	H Hardened Steel
Cutting Speed v _c (m/min)	80 to 120
Feed rate f (mm/rev)	0.04 to 0.08

* In order to avoid thermal cracking of the SUMIBORON cutting edge during interrupted cutting, ensure that the work is thoroughly dry before cutting.

Application Example

Process	Work Material	Insert	Cutting Conditions	Tool Life Comparison
Shaft Grooving: Continuous Required finish on groove sides: Ra0.4μm	Carburised Steel 58 to 62HRC	CGAR1504200 BN2000	v _c : 120m/min f : 0.05mm/rev Groove Depth : 2mm Dry	GWB type BN2000: No Chipping Conventional Tool: Chipping
Spline depth: Interrupted 	Carburised Steel 58 to 62HRC	CGAR1504200 BNC30G	v _c : 100m/min f : 0.05mm/rev Groove Depth : 1.6mm Dry	GWB type BNC30G: No Chipping Comp.: Chipping

▲mark: To be replaced by new item (Please confirm stock availability)

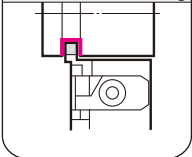
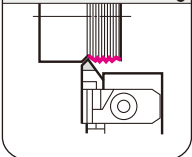
BNGG Type

■ Characteristics

- High rigidity improves tool life
Strong clamping reduces vibration and enhance chipping resistance.
- Grooving and Threading operations
Grooving and Threading can be adopted by changing the support.

SEC-Grooving Holder + SUMIBORON Insert can be used for Hardened steel grooving.

Hardened Steel, Shallow Grooves

BNGG
External Grooving**BNGG-TT**
External Threading

■ Holder

Inserts are not included.

Fig1 Grooving	Cat. No.	Stock		Dimensions (mm)			Fig	Applicable Holder
		R	L	f	ℓ_1	L_1		
Grooving	BNGG R/L2525-200	●		30.5	4	150	1	BNGNT0200 R/L
	R/L2525-250	●		30.5	4	150		BNGNT0250 R/L
	R/L2525-300	●		30.5	5	150		BNGNT0300 R/L
	R/L2525-400	●		30.5	6	151		BNGNT0400 R/L
	R/L2525-500	●		30.5	6	151		BNGNT0500 R/L
	R/L2525-600	●		30.5	7	152		BNGNT0600 R/L
Threading	BNGG R/L2525-TT	●		28.5	5	150	2	BNTT1020 R/L BNTT1530 R/L

* Holder can be configured for grooving or threading by changing the support.

■ Insert

Fig 1 Grooving

■ Parts

Applicable Holder	Support	Clamp	Adjustment Screw	Spring	Cap Screw	Wrench	
BNGG R/L2525-200	BNGS R/L 200	BNGC R/L	FMJ	GSP06	BX0615 (Clamp)	LH050 (Clamp)	1.8 × 45
BNGG R/L2525-250	BNGS R/L 250						
BNGG R/L2525-300	BNGS R/L 300						
BNGG R/L2525-400	BNGS R/L 400						
BNGG R/L2525-500	BNGS R/L 500						
BNGG R/L2525-600	BNGS R/L 600						
BNGG R/L2525-TT	BNGS R/L TT				BX0414 (Support)	LH030 (Support)	

■ Recommended Cutting Conditions

● For Grooving

Cutting Conditions	H Hardened Steel
Cutting Speed v_c (m/min)	80 to 120
Feed Rate f (mm/rev)	0.03 to 0.07

● For Threading

Cutting Conditions	H Hardened Steel
Cutting Speed v_c (m/min)	80 to 120
Feed Rate f (mm/rev)	Largest Pitch 3.0