



## BG-42 Information Sheet

**BG-42® VIM-VAR** (Vacuum-Induction-Melted / Vacuum-Arc-Remelted) is a high performance stainless bearing steel. Ball bearings are required to hold a great deal of pressure in a small area without flattening; similarly, that's the goal as well when choosing steel for a knife blade which is also required to resist a great deal of pressure in a small area.



Timken Latrobe Steel produces **BG-42®**. The following excerpt is directly from their Data Sheet:

"LESCALLOY® BG42® VIM-VAR steel is a martensitic, stainless high-speed steel that combines the tempering, hot hardness and hardness retention characteristics of M50 high-speed steel with the corrosion and oxidation resistance of type 440C stainless. LESCALLOY® BG42® VIM-VAR is double vacuum melted (vacuum induction followed by VAC-ARC® remelting) to consistently assure good cleanliness and superior properties. Although often used for aerospace bearings and other critical applications, its excellent wear resistance and corrosion resistance makes it a superior choice for use in cutlery applications."

"Available data indicate the corrosion resistance of BG42® VIM-VAR heat treated for maximum hot hardness at elevated temperature, as detailed elsewhere in this brochure, is equal or slightly superior to that of standard AISI 440C with either a 400°F (204°C) or a 900°F (482°C) temper. Obviously then, it is significantly superior to AISI 52100 or M50 in this regard."

Our own testing has provided us with the following conclusions:

- According to our CATRA testing, the abrasion resistance is comparable to CPM-S30V
  - Corrosion resistance is similar to VG-10
  - Sharpening is relatively simple with the Sharpmaker system
- (Some people may ascertain that because of its high wear resistance; it will be difficult to sharpen)

Steel	Carbon	Chromium	Cobalt	Copper	Manganese	Molybdenum	Nickel	Nitrogen	Phosphorus	Silicon	Sulfur	Tungsten	Vanadium
<b>52100</b>	0.98-1.10	1.30-1.60	---	---	0.25-0.45	---	---	---	0.03	0.15-0.30	0.03	---	---
<b>440C</b>	0.95-1.20	16.00-18.00	---	---	1.00	0.75	---	---	0.04	1.00	0.03	---	---
<b>BG-42</b>	1.15	14.50	---	---	0.50	4.00	---	---	---	0.30	---	---	1.20
<b>CPM-S30V</b>	1.45	14.00	---	---	---	2.00	---	---	---	---	---	---	4.00
<b>CPM-390V(420V)</b>	2.30	14.00	---	---	---	1.00	---	---	---	---	---	---	9.00