

Steel Chemistry – Lone Wolf Knives

You have probably noticed that some of the steels used in our products are not listed on common blade steel charts. These new blade steels have been developed for our products by working closely with several major steel producers to develop proprietary- steels based on modifying the chemistry of their better blade steels. The LV-04 steel used on the Loveless fixed-blade knives was developed because there was not an existing steel that had the properties desired for this product. Working with Bob Loveless we established how we wanted the steel to perform and then challenged a major steel producer to meet these requirements. The result was what we decided to call LV-04. The steel has high carbon content with Molybdenum & Vanadium for flexibility and added edge retention. You can also forge this steel. This was the key to producing the Loveless fixed-blade knives in a closed-die forging tool. This was our goal and we had to develop a special steel to reach it. This was a challenge to say the least but the resulting product forged from this steel has outstanding cutting properties and excellent corrosion resistance. Because R. W. (Bob) Loveless pushed us hard to find or develop steel with these properties we gave it the LV prefix in honor of Mr. Loveless. The LV-02 and LV-3 steels will be used in his folding knives and have specific key properties of their own for each application. We list the chemistry of these steels below but keep in mind that chemistry is only one part of the blade performance equation. As with many things how you use what you have is more important than what you have. The strict controls we follow on the heat treatment, cryogenic deep-quench and tempering sequence all add up to some of the best performing steels ever used in knife blades. Like a good recipe with premium ingredients the key is in the blending, handling and technique used to bake and cool the dish that will make it the best it can be.

We are working hard to develop materials and techniques never before used to provide exceptional performance and value in our products.

	Carbon	Chromium	Manganese	Molybdenum	Nickel	Vanadium
STEEL	C	Cr	Mn	Mo	Ni	V
420 Modified	0.40-0.50	12.00-14.00	0.8	0.6	—	0.18
440B - Modified	0.90	18.0	0.7	1.15	—	0.1
440C	0.95-1.20	16.00-18.00	1.0	0.75	—	—
AUS-6	0.55-0.65	13.00-14.50	1.0	—	0.49	—
AUS-8	0.70-0.75	13.00-14.50	0.5	0.10-0.30	0.49	0.10-0.26
ATS-34	1.05	14.0	0.4	4.0	—	—
154CM	1.05	14.0	0.5	4.0	—	—
BG-42	1.15	14.5	0.5	4.0	—	1.20
CPM S30V	1.45	0.14	—	2.0	—	4.00
LV-02	0.68	13.0	0.6	—	—	—
LV-03	0.95	13.5	0.65	—	—	—
LV-04	0.90	18.0	0.7	1.15	—	0.10
Damascus (AEB-H/302)	1.0	13.5	0.5			