Gateway Metals Inc.

DATA SHEET

GATEWAY A-7

Specialty Tool Steel

Gateway A-7 was specifically developed for applications requiring high wear resistance, such as those found in the refractory and ceramics industries. Because Gateway A7 also has a very high hardness level, its applications have expanded into several other industries. The combination of carbon and vanadium give the alloy its high wear resistance properties while chromium adds to the depth of hardness.

Typical Chemistry

Carbon	2.80		Vanadium	4.50
Manganese	.70		Chromium	5.25
Silicon	.30		Molybdenum	1.10

Applications

Gateway A-7 is suitable for liners for shot blasting equipment, brick mold liners, liners for sand slingers, deep drawing dies, drawing dies for wire and shapes, extrusion punches for ceramics, loopers, plastic dicer knives and granulator knives.

Annealing

Heat slowly and uniformly to 1480/1550 F and hold two hours. Cool slowly (50 F per hour max) to 1000 F.

Preheating

1450/1500 F.

Heat Treating

Gateway A-7 should be hardened in a vacuum or atmosphere furnace. Bring HH to 1750/1800 F and hold 30-45 minutes before quenching in air (preferred) down to 100 F prior to tempering, and then temper immediately. The high side is used for more wear applications and the low side for tools requiring a balance of toughness and wear.

Tempering

Double temper one hour per inch of section thickness to desired hardness, two hours minimum per temper. Representative hardness levels after tempering are tabulated below.

Tempering Temperature (F)		Hardness (HRC)
400		63/64
500		62/63
600		61/62
700		59/60
800		58/59
900		57/58
1000		56/57

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Tempering (continued)

Note: Variations in section size, heating rate, soak time, quench rate and tempering will cause deviations from the above values. Gateway Metals should be consulted for specific applications.