Kubota METAL CORPORATION
*25 Commerce Road, Orillia, Ontario, Canada L3V 6L6*
*Phone (705) 325-2781 Fax (705) 325-5887*

# ALLOY DATA SHEET
# KHR40CM

**HEAT RESISTANT ALLOY**

**REVISION**: 10/92

## DESCRIPTION

KHR40CM is a cobalt based Cr-Ni alloy specifically developed to meet the high temperature requirements of reheating furnace skid materials operating at temperatures in excess of 2200 $^{o}$F.The alloy offers outstanding physical and mechanical properties which are combined with a high resistance to thermal shock and oxidation.

## COMPOSITION

| | C | Mn | Si | Cr | Ni | Mo | Co | S | P |
|---|---|---|---|---|---|---|---|---|---|
| Min % | | | | 25 | 15 | 0.5 | 38 | | |
| Max % | 0.15 | 2.0 | 2.0 | 29 | 19 | 1.5 | 42 | 0.03 | 0.03 |

**APPLICATIONS** Reheating furnace skid riders.

**PRODUCT FORMS** Static castings.

## COMPARATIVE PHYSICAL PROPERTIES

| | KHR40CM | KHR48N | KHRS3 |
|---|---|---|---|
| Density (lbs/in$^3$) | 0.293 | 0.290 | 0.297 |
| Solidus Temp($^{o}$F) | 2516 | 2400 | 2372/2426 |
| Liquidus Temp($^{o}$F) | 2534/2554 | 2489 | 2510 |
| Hardness (BHN) | 180/185 | | |

## OXIDATION RESISTANCE

Comparative Oxidation Rates (mm / year)

| GRADE | 1832 | 2012 | 2204 | $^{o}$F |
|---|---|---|---|---|
| KHR40CM | 0.11 | 0.20 | 0.69 | |
| KHR48N | 0.21 | 0.76 | 1.14 | |

## MECHANICAL PROPERTIES (Typical Values)

| | Compressive Strength (KSI) | | | | Tensile Strength (KSI) | | |
|---|---|---|---|---|---|---|---|
| | 1800 | 2000 | 2200 | $^{o}$F | 1832 | 2204 | $^{o}$F |
| KHR40CM | 24 | 14 | 5.3 | | 15.6 | 4.3 | |
| KHR48N | 25.5 | 11 | | | 17.5 | (6.5) | |

## SERVICE TEMPERATURE

The alloy is suitable for service at temperatures up to approximately 2400 $^{o}$F.

**RELATED SPECIFICATIONS :** None

**HEAD OFFICE, FOUNDRY & INTERNATIONAL SALES**
**Kubota Metal Corporation, Fahramet Division**
25 Commerce Road, P.O. Box 1700,
Orillia, Ontario, Canada, L3V 6L6.
Phone (705) 325-2781
Fax (705) 325 5887