

## CONTROLLED EXPANSION ALLOYS

### ALLOY 45

#### ALLOY 45 TYPICAL NOMINAL CHEMISTRY

|                |         |
|----------------|---------|
| NICKEL (NI)    | 46.0    |
| CHROMIUM (CR)  | 0.10    |
| MANGANESE (MN) | 0.80    |
| SILICON (SI)   | 0.30    |
| CARBON (C)     | 0.05    |
| ALUMINUM (AL)  | 0.10    |
| MAGNESIUM (MG) | 0.50    |
| ZIRCONIUM (ZR) | 0.00    |
| TITANIUM (TI)  | 0.00    |
| PHOSPHORUS (P) | 0.025   |
| SULFUR (S)     | 0.025   |
| IRON (FE)      | BALANCE |

#### ALLOY 45 TYPICAL TENSILE STRENGTH

|          |                    |
|----------|--------------------|
| ANNEALED | 85,000 MAX.        |
| ¼ HARD   | 90,000 to 115,000  |
| ½ HARD   | 105,000 to 125,000 |
| HARD     | 120,000 MIN.       |

#### TYPICAL HARDNESS, ROCKWELL B

|          |          |
|----------|----------|
| ANNEALED | 70 MAX.  |
| ¼ HARD   | 78 to 83 |
| ½ HARD   | 84 to 88 |