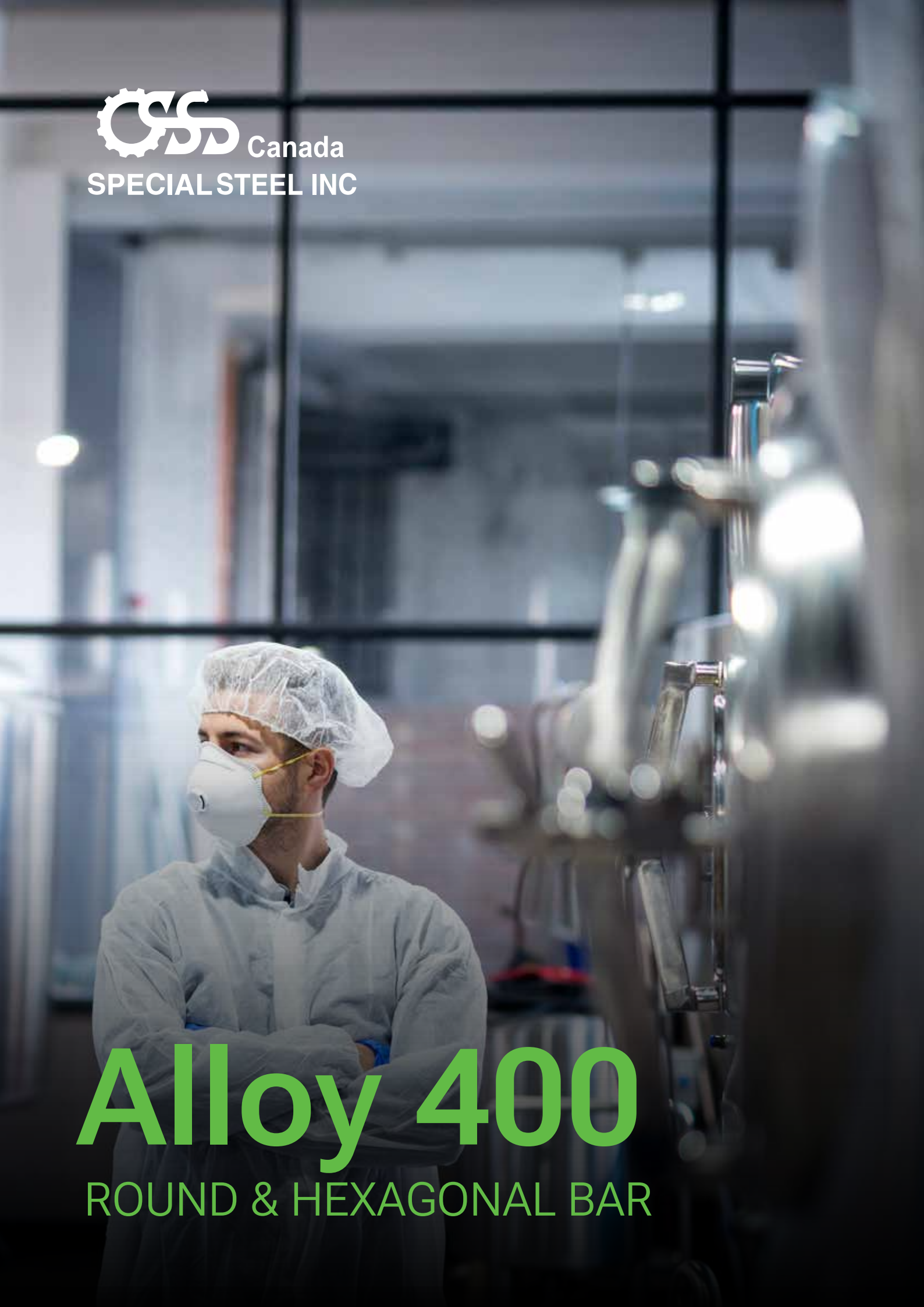

CSS Canada
SPECIAL STEEL INC

Alloy 400

ROUND & HEXAGONAL BAR

Applications

INDUSTRIAL

Power Plants, Chemical Industry, Mineral Oil Distillation Plants

Features

- Resistance against chloride-induced stress corrosion
- Excellent strength even at low application temperatures
- Easy processing compared to other high-alloy materials

Standard

ASTM B164

Material

Alloy 400 / UNS N04400 / 2.4360&2.4361

Surface

Bright annealed / annealed

Package

Wooden case

Chemical composition *(Nominal)* %

Grade	Ni	Cu	Fe	Mn	C	Si	S
Alloy 400	63.0 min	28.0-34.0	2.5 max	2.0 max	0.3 max	0.5 max	0.024 max

Physical properties

Density	8.82 g/cm^3 *(0.32 lb/in^3)* at 20°C

Mechanical properties

Heat Treatment	Tensile Strength, min, psi *(MPa)*	Yield Strength, min. *(0.2% offset)*, min, psi *(MPa)*	Elongation in 2 in. or 50 mm *(or 4 D)*, min, %
Cold-worked *(as worked)*: Rounds under 1/2	11 000 *(760)*	85 000 *(585)*	8
Cold-worked *(as worked)*: hexagons under 1/2	85 000 *(585)*	55 000 *(380)*	10
Cold-worked *(Stress-relieved)*: Rounds under 1/2	84 000 *(580)*	50 000 *(345)*	10
Cold-worked *(Stress-relieved)*: Rounds 1/2 to 3 1/2	87 000 *(600)*	60 000 *(415)*	20
Cold-worked *(Stress-relieved)*: Rounds over 3 1/2 to 4	84000 *(580)*	55 000 *(380)*	20
Cold-worked *(Stress-relieved)*: hexagons 2 and under	84 000 *(580)*	50 000 *(345)*	20
Cold-worked *(Stress-relieved)*: hexagons over 2 to 3 1/8	80 000 *(552)*	50 000 *(345)*	20
Hot-worked *(Stress-relieved)*: Rounds up to 12 hexagons 2 1/8 and under	80 000 *(552)*	40 000 *(276)*	30
Hot-worked *(Stress-relieved)*: Rounds over 12 to 14	75 000 *(517)*	40 000 *(276)*	30
Hot-worked *(Stress-relieved)*: hexagons over 2 1/8 to 4	75 000 *(517)*	30 000 *(207)*	25
Hot-worked *(Annealed)* or Cold-worked *(Annealed)*: Rod and Bar, all sizes	70 000 *(480)*	25 000 *(170)*	35

Heat treatment

Annealed	Stress-Relieved
The soft annealing should be performed at temperatures of 700 to 900°C *(1,292 to 1,652°F)*, preferably at about 825°C *(1,517°F)*.	Stress-relief annealing at about 550 to 650°C *(1,022 to 1,202°F)* should then occur, in order to prevent stress corrosion cracking.

OSS CANADA SPECIAL STEEL INC
2384 Speers Rd, Oakville, ON, Canada L6L 5M2, T 905-827-5888 E sales@oss-material.ca Contact Person: Vincent Ho