

Typical data, Astaloy™ CrA

Apparent density, g/cm ³	Flow, sec/50g
2.85	26

Sieve analysis, %

+ 250 µm	0
+ 150 µm	8
- 45 µm	16

Compressibility, g/cm³

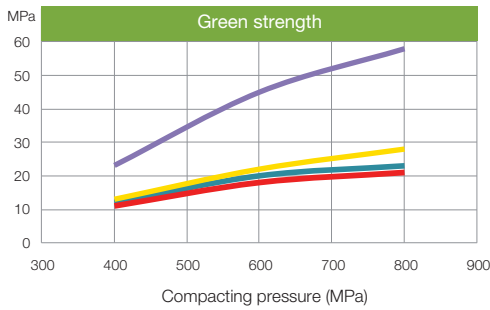
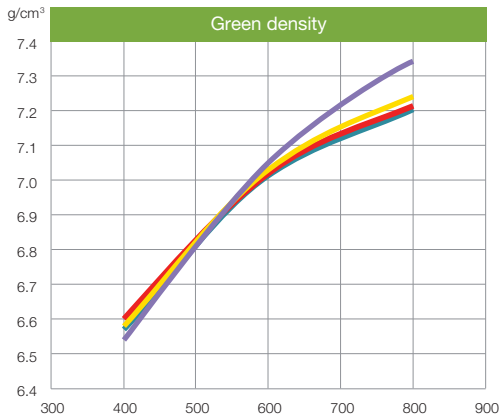
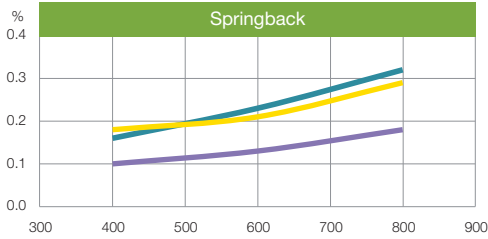
Compacting pressure	Lubricated die	0.6% Lube E	0.8% Zn-st
400	6.54	6.58	6.60
600	7.05	7.03	7.02
800	7.34	7.24	7.21

Green strength, MPa

Compacting pressure	Lubricated die	0.6% Lube E	0.8% Zn-st
400	23	13	11
600	45	22	18
800	58	28	21

Chemical analysis, %

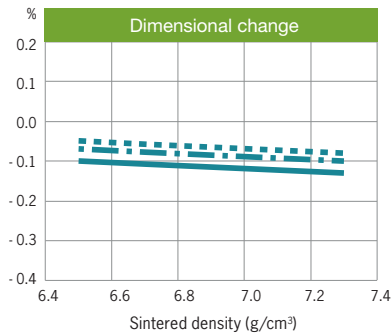
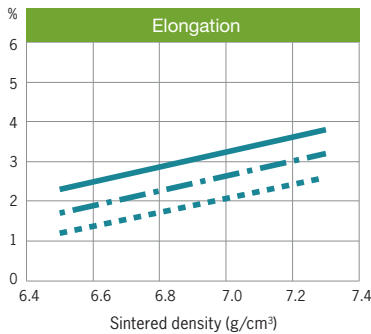
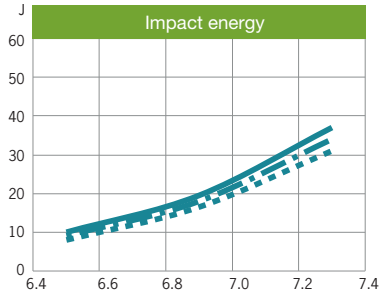
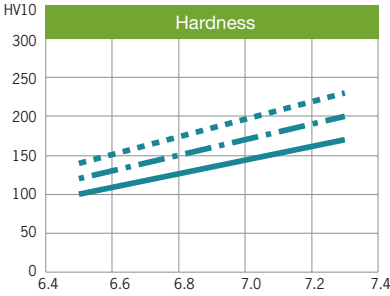
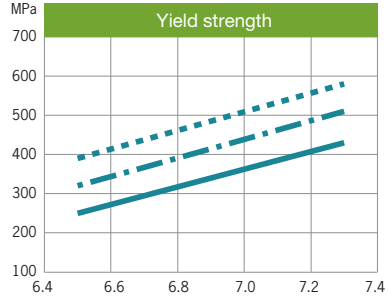
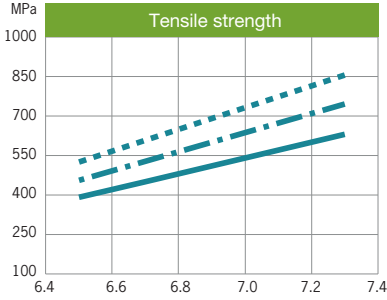
Carbon	<0.01
O-tot	0.15
Chromium	1.80



- Lubricated die
- 0,8% Lube E
- 0,8% Amide-wax
- 0,8% Zn-stearate

Astaloy™ CrA + C

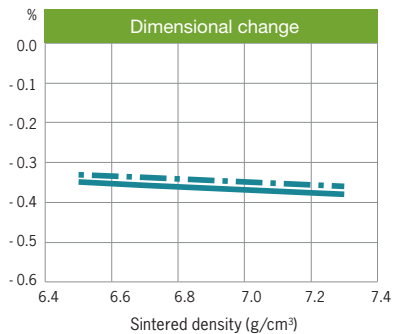
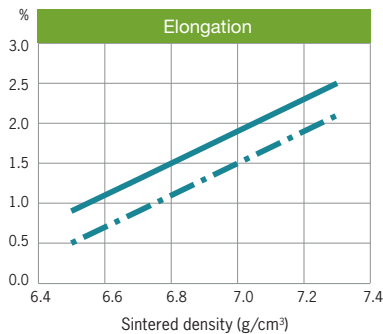
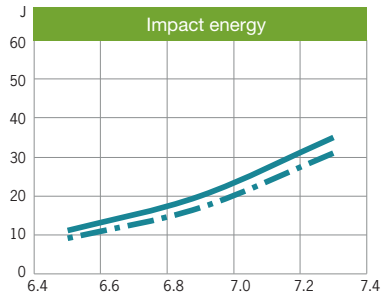
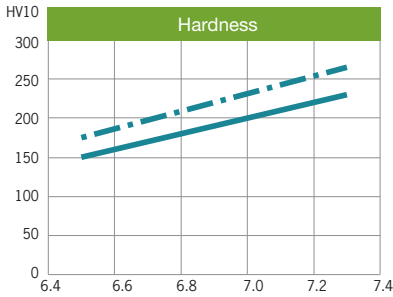
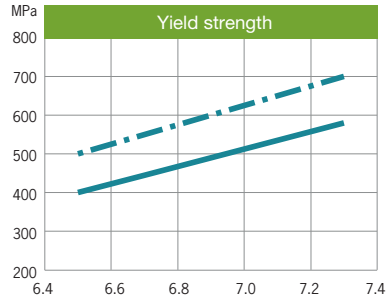
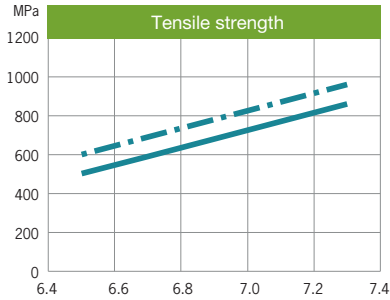
— 0.4% C
 - - - 0.6% C
 ···· 0.8% C



MANUFACTURING CONDITIONS: 0.6% Intralube E; P: 400 - 800 MPa conventional compaction.
 S: 1120°C, 30 min in 90/10 N₂/H₂. Dimensional change: Green to as sintered.

Astaloy CrA + 2% Ni + C

— 0.4% C
 - - - 0.6% C

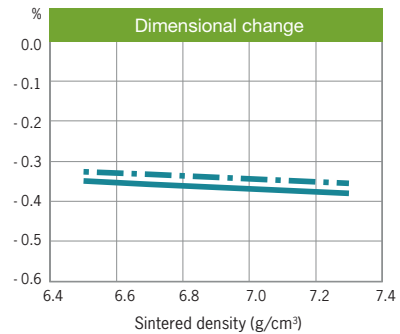
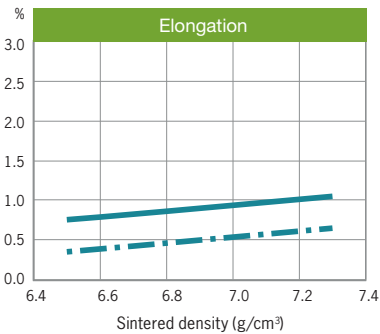
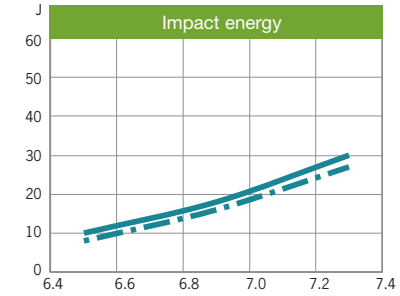
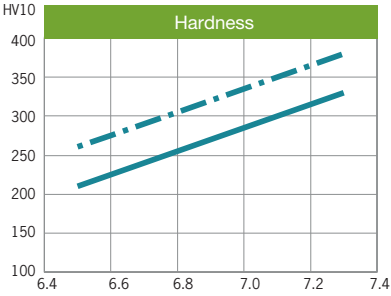
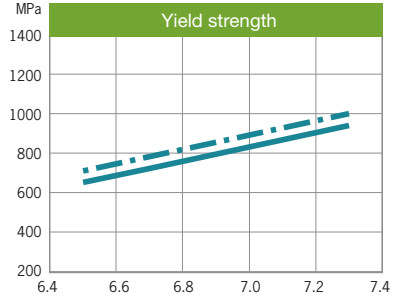
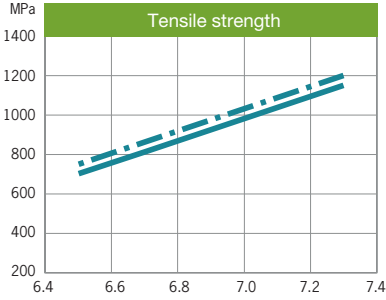


MANUFACTURING CONDITIONS: 2% Ni (123) + 0.6% Intralube E; P: 400 - 800 MPa conventional compaction. S: 1120°C, 30 min in 90/10 N₂/H₂. Dimensional change: Green to as sintered.

Astaloy™ CrA + 2% Ni + C (cooling rate 2.5°C/s)

— 0.4% C
 - - - 0.6% C

Sinter hardening

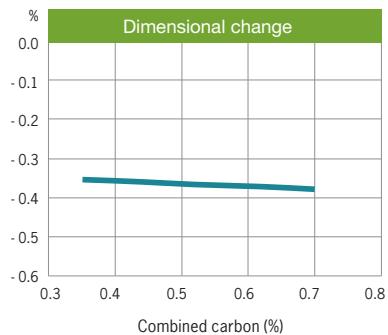
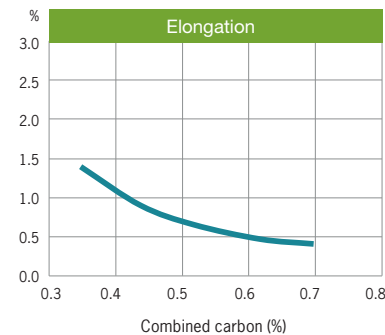
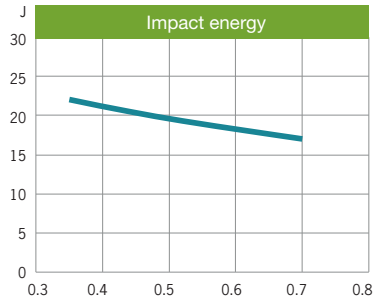
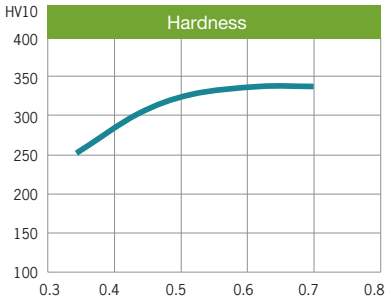
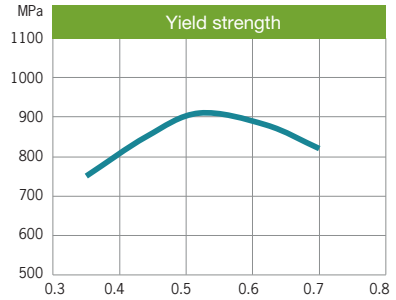
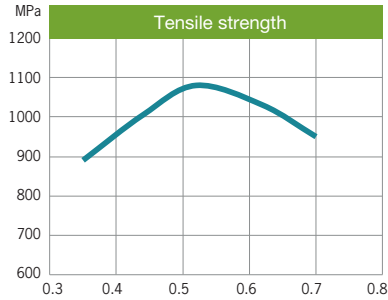


MANUFACTURING CONDITIONS: 2% Ni (123) + 0.6% Intralube E; P: 400 - 800 MPa conventional compaction.
 S: 1120°C, 30 min in 90/10 N₂/H₂, cooling rate 2.5°C/s. Tempering 180°C, 60 min in air.
 Dimensional change: Green to as sintered.

Astaloy CrA + 2% Ni + C (sintered density 7.0 g/cm³)

Sinter hardening

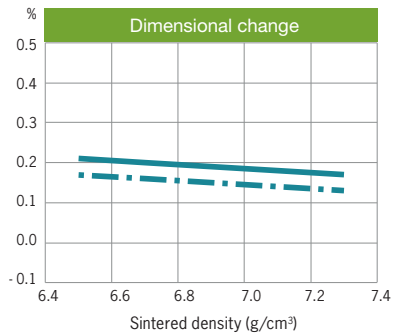
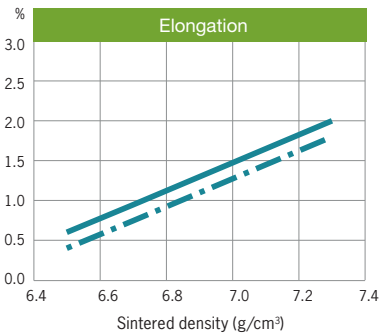
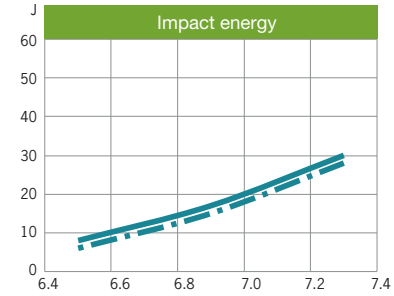
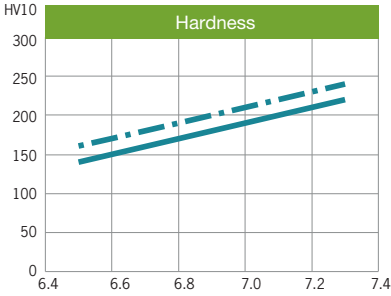
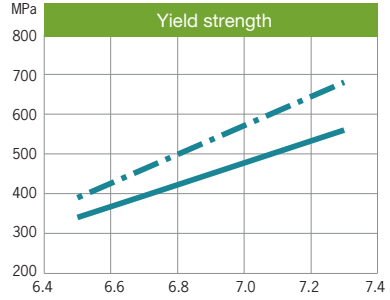
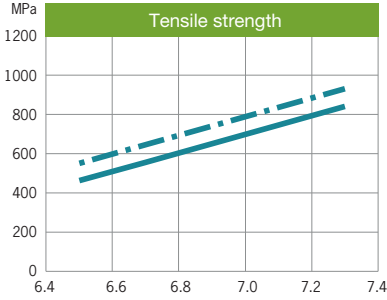
— 2.5°C/s



MANUFACTURING CONDITIONS: 2% Ni (123) + 0.6% Intralube E; P: 600 MPa conventional compaction.
 S: 1120°C, 30 min in 90/10 N₂/H₂, cooling rate 2.5°C/s. Tempering 180°C, 60 min in air.
 Dimensional change: Green to as sintered.

Astaloy™ CrA + 2% Cu + C

— 0.4% C
 - - - 0.6% C

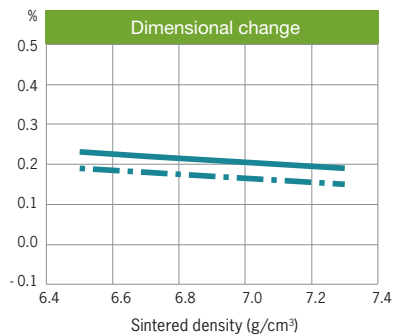
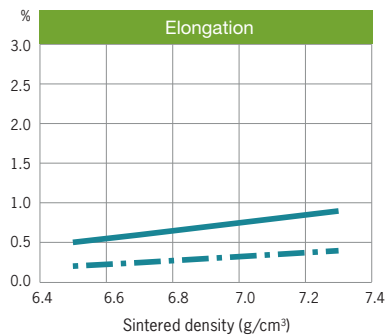
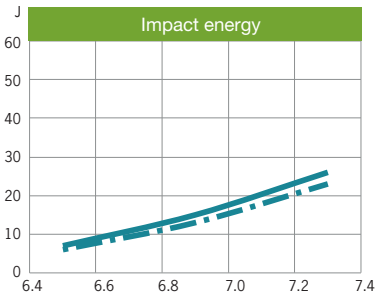
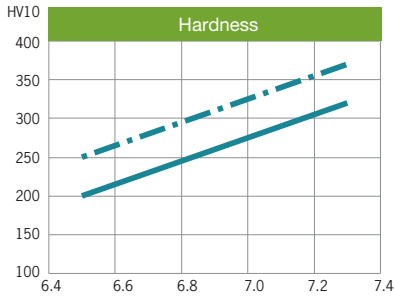
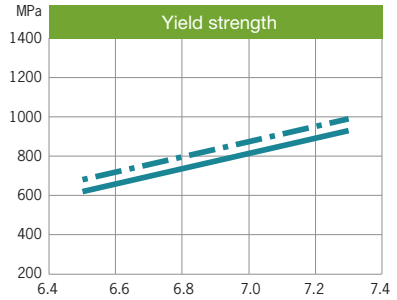
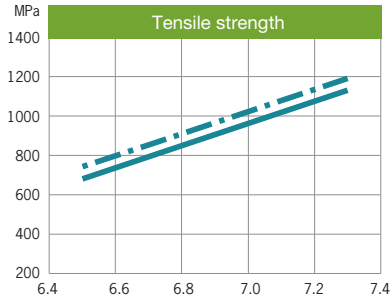


MANUFACTURING CONDITIONS: 2% Cu (-165) + 0.6% Intralube E; P: 400 - 800 MPa conventional compaction. S: 1120°C, 30 min in 90/10 N₂/H₂. Dimensional change: Green to as sintered.

Astaloy CrA + 2% Cu + C (cooling rate 2.5 °C/s)

Sinter hardening

— 0.4% C
 - - - 0.6% C



MANUFACTURING CONDITIONS: 2% Cu (-165) + 0.6% Intralube E; P: 400 - 800 MPa conventional compaction. S: 1120°C, 30 min in 90/10 N₂/H₂, cooling rate 2.5°C/s. Dimensional change: Green to as sintered.