Höganäs

Distaloy® AQ

Lean material for heat treatment

Distaloy AQ is a material optimised for manufacturing of heat treated metal powder components. The Distaloy powders are diffusion alloyed for maximum compressibility and strength together with good consistency of properties on the PM components.

Distaloy AQ is specially designed to have good machinability and sizing properties in sintered state and high strength after heat treatment.

Heat treated hardness levels above 40 HRC can be reached at carbon contents of 0.6 weight percent and above.

For more information, please contact your local sales representative.

Main product benefits:

- Lean alloy – high hardened strength
- High compressibility
- Excellent machinability as-sintered
- Good sizing properties
- Distaloy precision

Basic product characteristics

Chemical composition

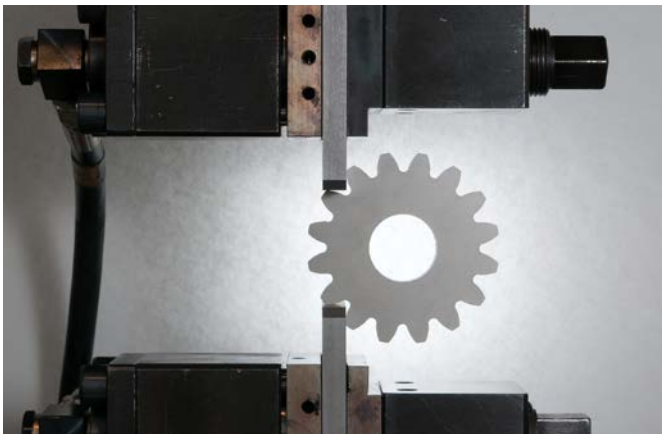
Ni	Mo	Fe
0.5%	0.5%	balance

Powder properties

Apparent density	Flow (Hall)
3.00 g/cm^3	26 s/50g

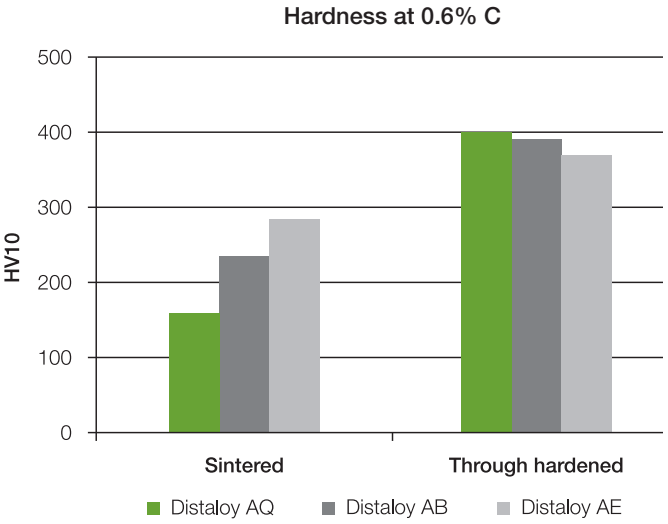
Green density

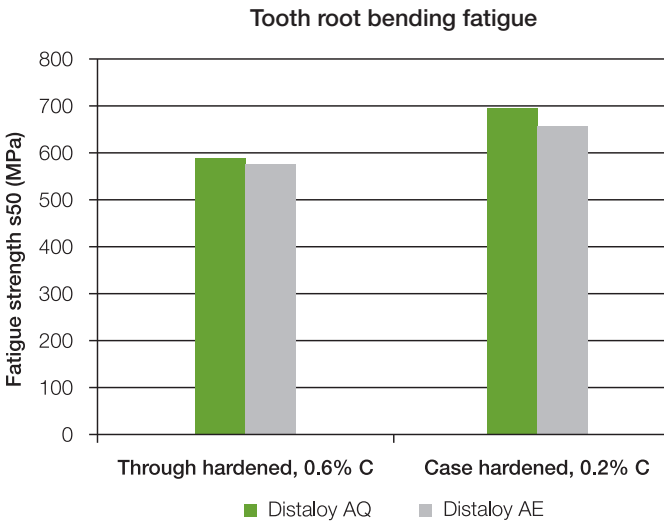
P (MPa)	Lubricated die (g/cm^3)	0.6% Lube E (g/cm^3)
400	6.66	6.72
600	7.15	7.14
800	7.42	7.33



Compared to other iron-based Distaloy® materials with higher alloy content*, the hardness is significantly lower for Distaloy AQ in sintered state. This facilitates machining, coining as well as surface densification. It also makes Distaloy AQ an excellent choice using double pressing/ double sintering (2P2S) resulting in the highest density levels. In hardened state the hardness is slightly higher for Distaloy AQ. The tooth root bending fatigue strength is very high for both through hardened as well as case hardened Distaloy AQ.

* Distaloy AB: 1.75% Ni, 1.5% Cu, 0.5% Mo
Distaloy AE: 4.0% Ni, 1.5% Cu, 0.5% Mo





Processing conditions

Compaction pressure:	P=600 MPa		
Sintering:	T= 1120°C	t=30 min	Atm: 90/10 N_2/H_2 C-pot=0.2%
Through hardening:	T= 920°C	t=20 min	C-pot=0.6%
Case hardening:	T= 920°C	t=20 min	C-pot=0.8%
Tempering:	T= 200°C	t=60 min	Atm: air