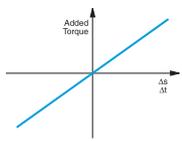


The picture above describes the function of the special Stressometer drive application. The gray boxes describe a normal roll drive system.

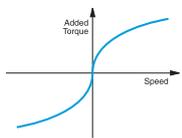
*) Please note that the bearing temperature compensation requires temperature measurements in the bearings. It compensates for the temperature dependency of the bearing friction.

Stressometer® Systems – AC-drive application program



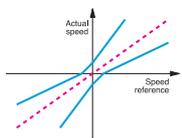
Inertia compensation:

The inertia compensation is used to compensate for the inertia of the roll during acceleration and deceleration.



Friction compensation:

The friction compensation is compensating for the friction coming from the bearing, seals etc.



Speed reference evaluation:

This function calculates the speed deviation and evaluates it against an adjustable deadband. There are two

limits in the torque limitation function: Either when the speed deviation is within or outside the deadband. In this way the system can compensate inaccuracy of the speed reference e.g. difficulties in knowing the forward slip in the mill.

The ABB ACS 800 frequency converter is used in the Stressometer roll drive. The converter is built in a cabinet.

The ABB ACS 800 has Direct Torque Control (DTC) technology and the drive has the following advantages:

- Motor starting torque up to 200% with heavy duty rating.
- Torque step rise time typically less than 5 ms.
- Speed control inaccuracy typically 0.1% to 0.5% of nominal speed.
- Easy to handle and program.

The Stressometer drive system uses ABB Motors squirrel cage three phase motor. The hallmarks of the ABB Motors products are efficiency, robustness and reliability combined to represent the best of values available. The Stressometer drive system motor is equipped with overtemperature protection and coupling for the measuring roll.

These special adaptations makes it possible for ABB to deliver a drive system with perfect synchronism between the roll and the strip.

Measure^{IT} Stressometer® Systems AC-drive

Technical data



Mains connections

Voltage: 3 phase, 380 to 500 V \pm 10%
Frequency: 48 to 63 Hz

Motor connections

Voltage: 3 phase, 380 to 500 V \pm 10%
Frequency: 0 to 300 Hz

Environmental limits

Ambient temperature: 0 to 40°C

Enclosure class

Cabinet: IP 21
Motor: IP 55



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