

TOOLING APPLICATION CARBIDE TIPPED DRILLS

HEAT TREATMENT FOR

- carbide tipped drills HSS bodies
- gundrill HSS bodies

CARBIDE TIPPED DRILLS : HEAT TREATMENT requirements

This procedure should be used for those companies which use our M2 bars :

- for the manufacturing of carbide tipped drills
- as a replacement for the usual alloy steel tube / pipe of gun-drill bodies

For this application, the tool maker does not wish to obtain the maximum possible hardness, because the HSS is not used for its cutting ability. It is the carbide tip or the carbide top head that does the cutting work. However, the body needs to offer the following advantages :

Tool body



Required features

- Ability for proper straightening
- High toughness
- High Ultimate Tensile Strength

In order to achieve these features together, a special heat treatment must be processed.

FORECREU HEAT TREATMENT PROCEDURE

Forecreu recommends the following heat treatment procedure : Hardening and Tempering
(see reference curve below)

- Hardening : austenitising temperature 1100-1120°C (2012-2048°F).
- Tempering : 2 tempers of 2 hours each at 550-565°C (1022-1049°F).

**Obtained hardness
is approx. HRc 60/61**

Reference heat treatment for M2 (doc ERASTEEL)

Hardness after quenching and two
1h temperings in salt bath for a
25mm Ø piece.

