

## **"New Developments in Carbon-Dispersions for Hot Metal Forming"**

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Abstract:

Since Mannesmann's introduction of the first cross roll piercer and pilger mill approximately 100 years ago the production of seamless tubes and pipes has gained more and more importance. Also forging operations belong to high tech metal forming procedures. With regard to the worldwide commercial importance of hot metal forming the development in graphite dispersions plays a key role.

Initially, the aim of this presentation is to introduce the effects of a new generation of graphite dispersions on the workpiece quality, tool lifetime, productivity and environmental behaviour. It is essential to recognise the importance of the different applications systems like air spraying or airless spraying. The function of water based graphite dispersions containing designed graphite will be introduced. In particular modern carbon dispersions will conform and adhere to the finest surface details and are readily formed on either hot or cold surfaces, thus taking fullest advantage of the versatile lubricating, fast drying, thermal conductive and releasing properties of the pure graphite.

The behaviour of natural and artificial graphite in hot metal forming operations will be introduced.