

# Reduce mechanical damage and stress during an interference fit

## The benefits of Shrink fitting

Our shrink fitting service provides a quality that is unsurpassed by conventional heating and force fitting methods due to its harm free application. When an interference fit is required, the traditional way of fitting a component into another is either the force fit method or to expand the outer component with heat. Therefore for each application using the traditional method, liquid nitrogen shrink fitting can be used as an alternative.

Shrink fitting offers:

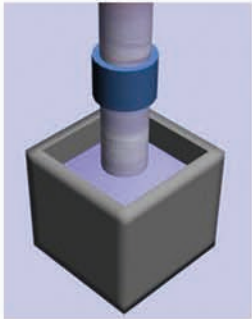
- Little or no distortions on effected parts
- Efficient method
- Convenience of on-site or off-site service
- Can reduce costs

## Safety and reliability

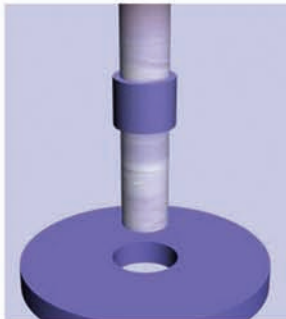
- Liquid Nitrogen is inert therefore safe to use in an adequately ventilated area
- Reduces local damage and stress between the two faces
- Reduces distortions and permanent effect on ferrous or non-ferrous metals, certain austenitic irons excepted.

## How it works...

Showing the general principle of Shrink Fitting



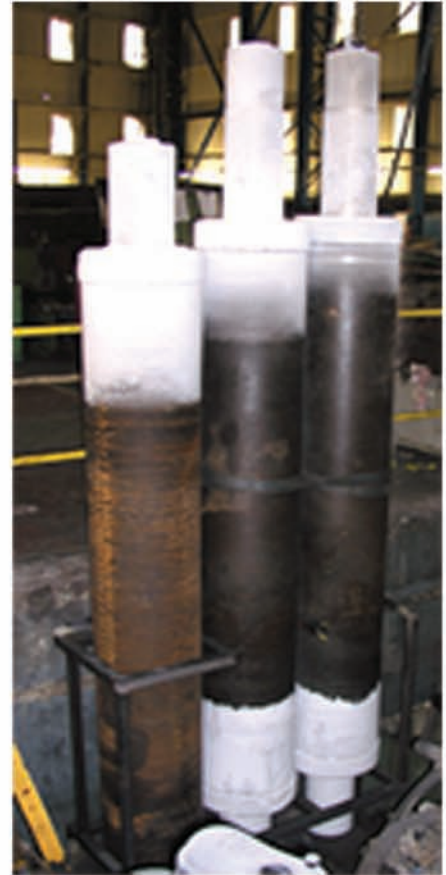
The shaft, or bush, is immersed in a bath of liquid nitrogen in order to cool it to its optimum temperature to achieve maximum shrinkage of the metal component



Once this state is achieved it is ready to be inserted into the mating part of the housing



The shaft having been shrunk to the predetermined dimensions is offered into the drive coupling, then allowed to return to room temperature naturally



Heavy Plate Mill Roll Journal photo courtesy of Yorkshire Machine Tools Ltd

## General analysis

Showing an example of how shrink fitting enabled the new inserts to be fitted into the rollers.

By immersing the inner component (generally a shaft or a bush) in a bath of liquid nitrogen at  $-196^{\circ}\text{C}$  it causes the effected part to shrink in size.

With over 20 years experience, Allied Pipefreezing can provide a cost effective solution to fit large or small components by interference.

Allied Pipefreezing Services provides free technical support for pipefreezing regardless of the size of the job.

Call Allied Pipefreezing Services for a free no obligation quote for your next interference fit

**01282 410240**



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