

# **Dreyfus**

GLOBAL TRADE, LLC.

*Examples  
&  
Applications*

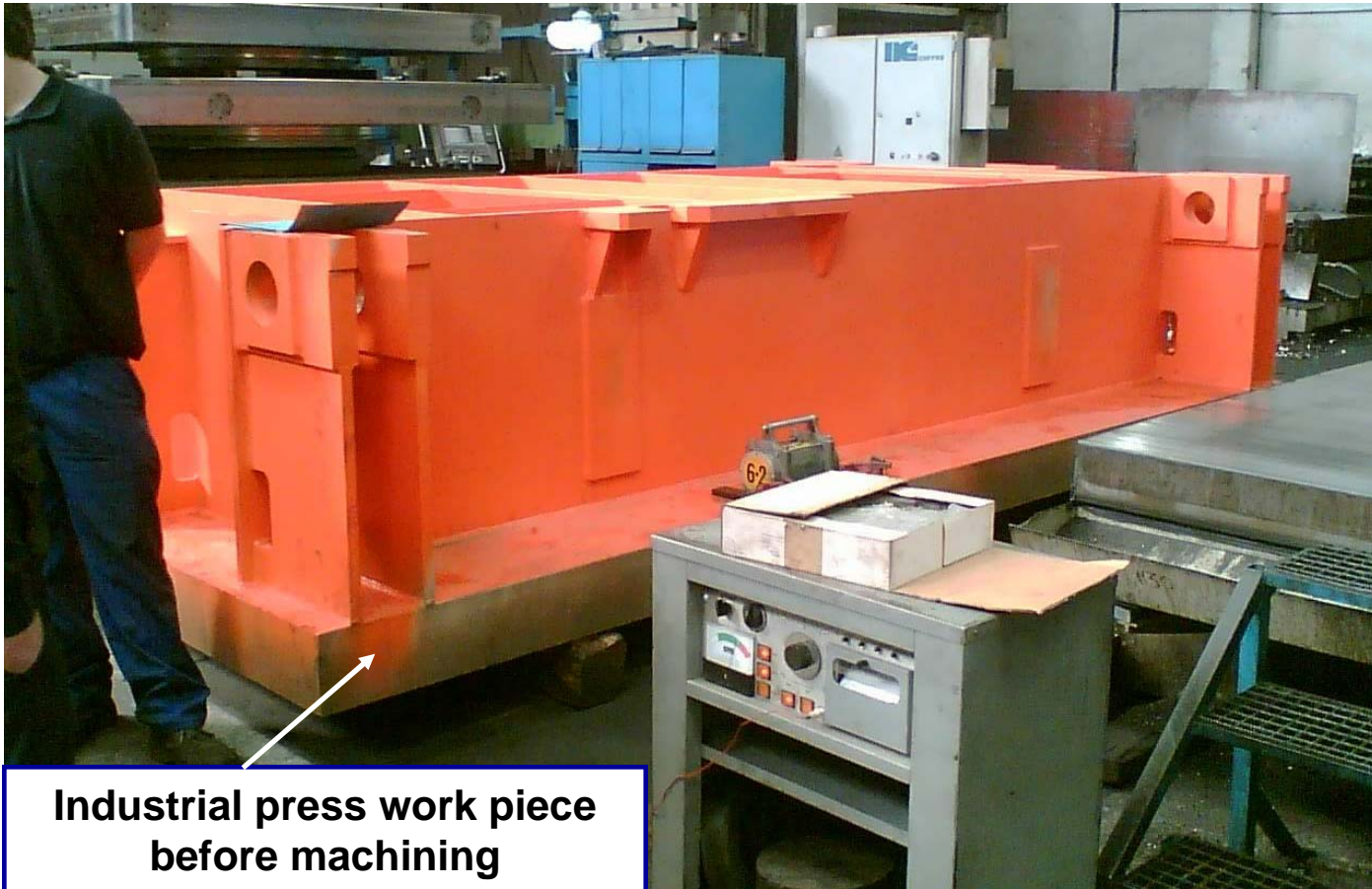
**Reducing Residual Stress  
with Resonance Based  
Vibration**



**STRESS RELIEF ENGINEERING**

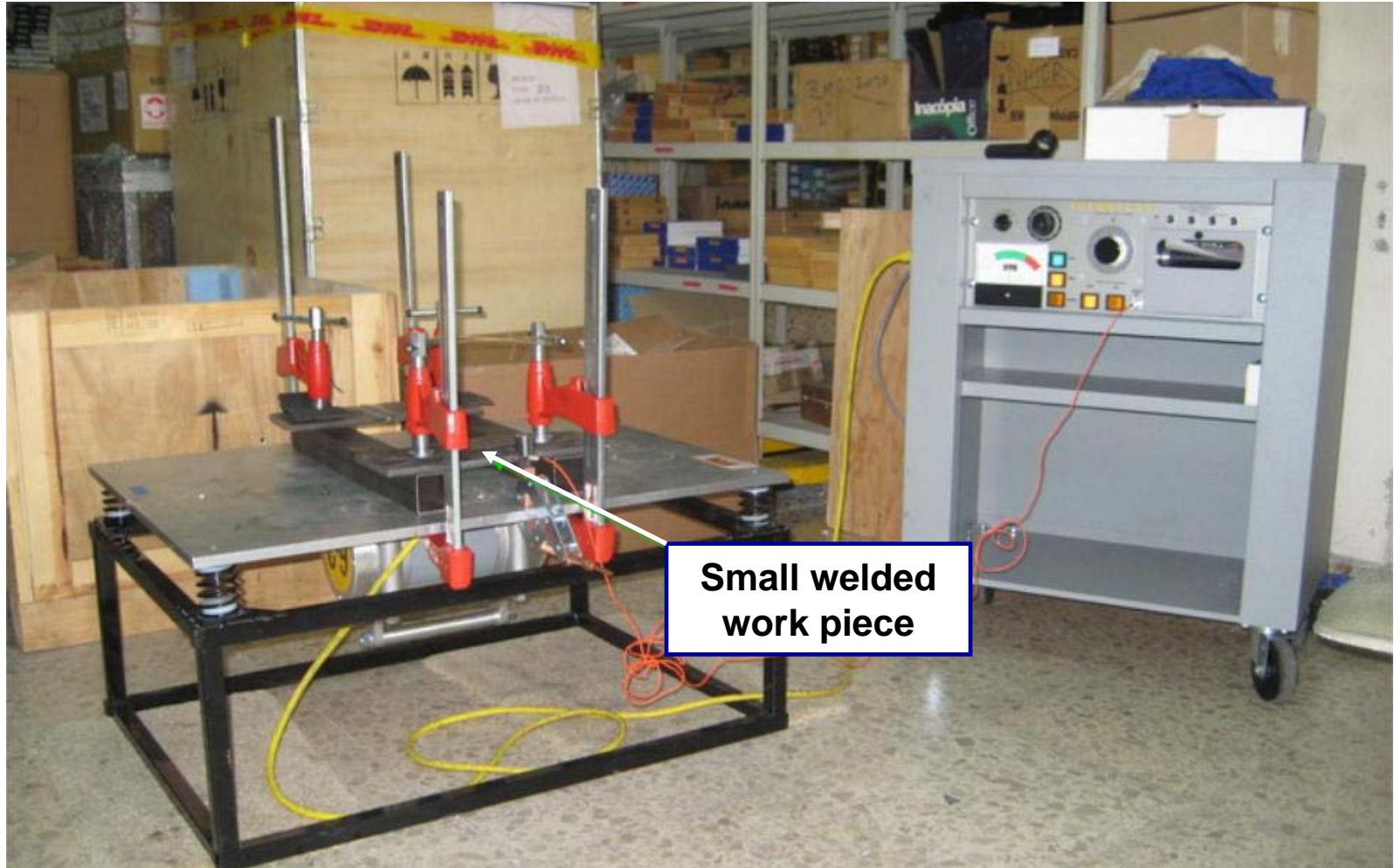
## Resonance Based Vibratory Stress Relief

An alternative to furnace or thermal heat treatment.



Industrial press work piece  
before machining

The method can stabilize pieces that weigh a few grams...



Small welded work piece

... to pieces of 150 tons or more.



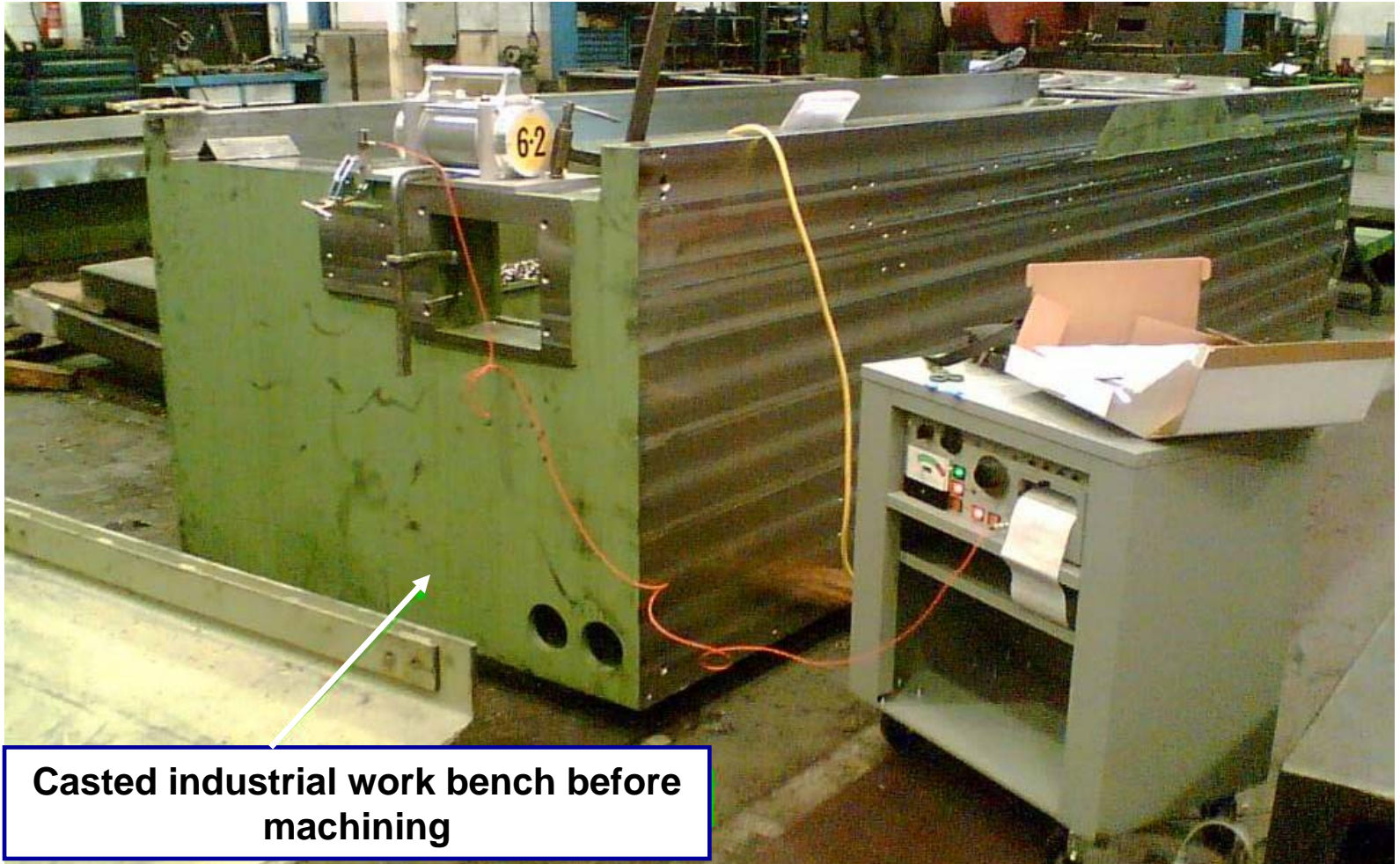
Large multi-ton work piece

Effective on: welded pieces...



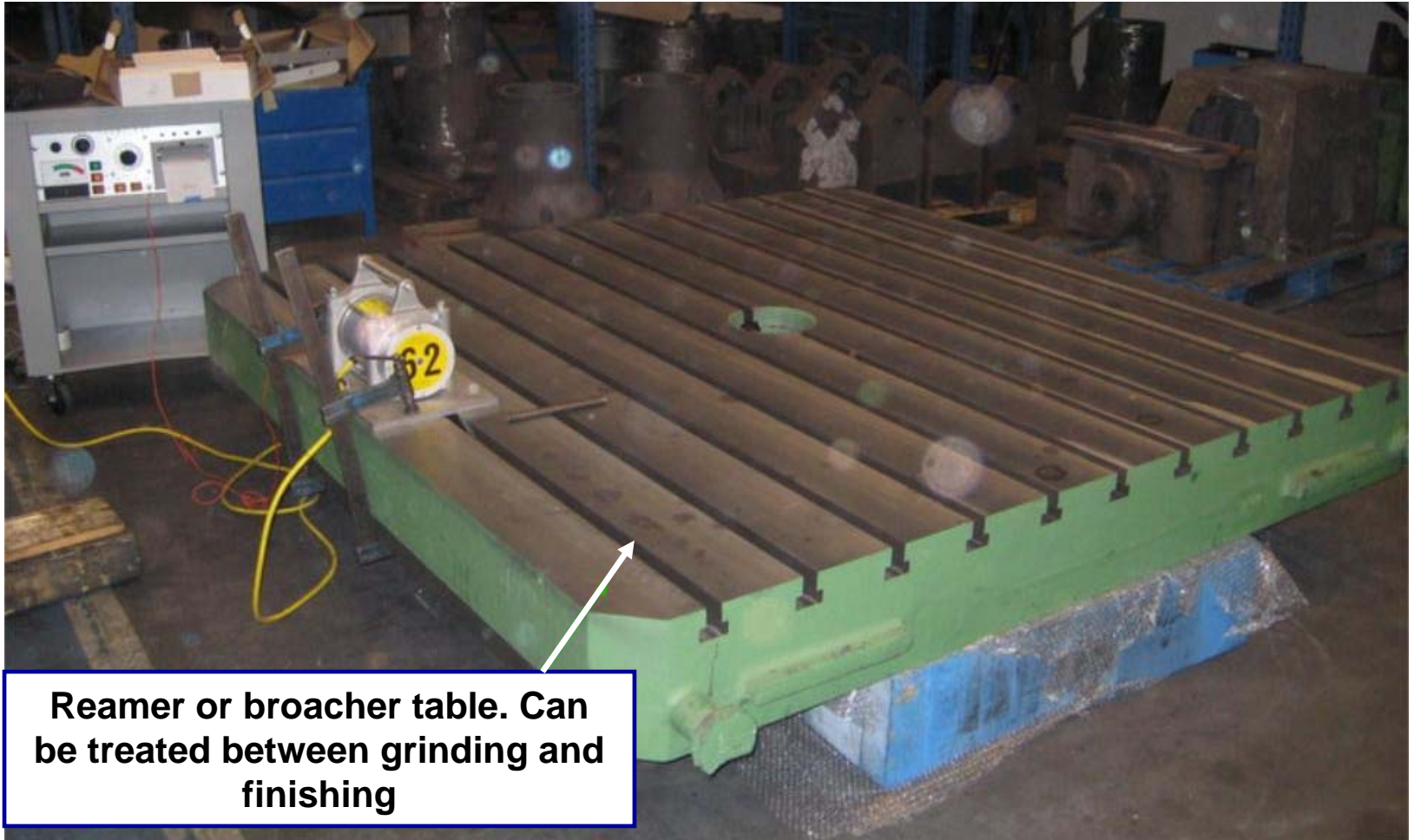
**Machine component for the  
Mining Industry**

... casting...



**Casted industrial work bench before  
machining**

... machined pieces...



**Reamer or broacher table. Can be treated between grinding and finishing**

... hardened pieces...



Top of an industrial drilling machine

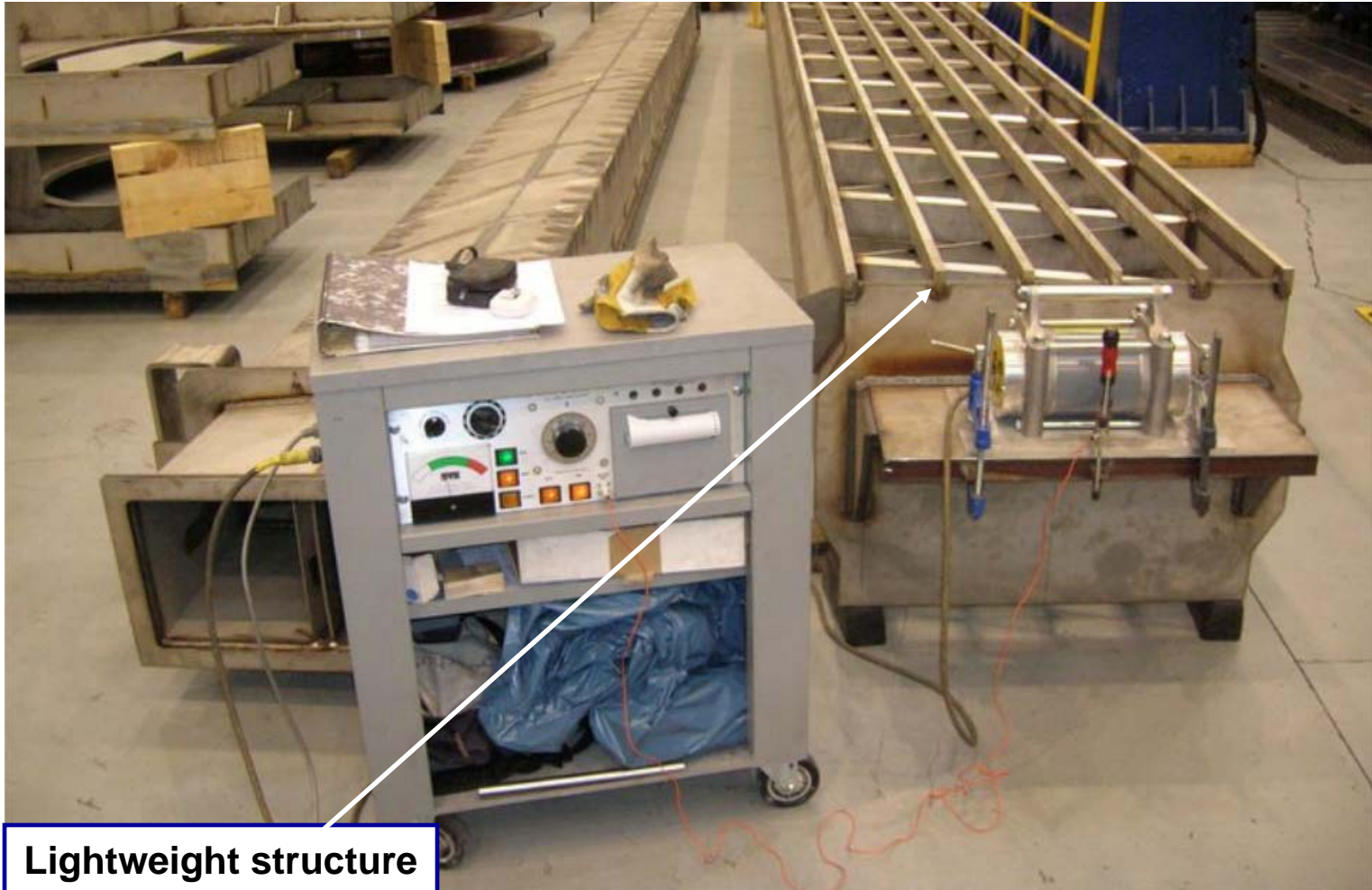


... unfinished material, for example,  
plates before cutting...



**Packets of recently cut  
stainless steel**

and many more pieces.



Lightweight structure

Effective on a great variety of  
materials: carbon steel...



Machine component

... ferrous metals...



**Security work piece to hang  
recently forged steel**

... stainless steel...



**Watertight tank before machining**

...aluminium.



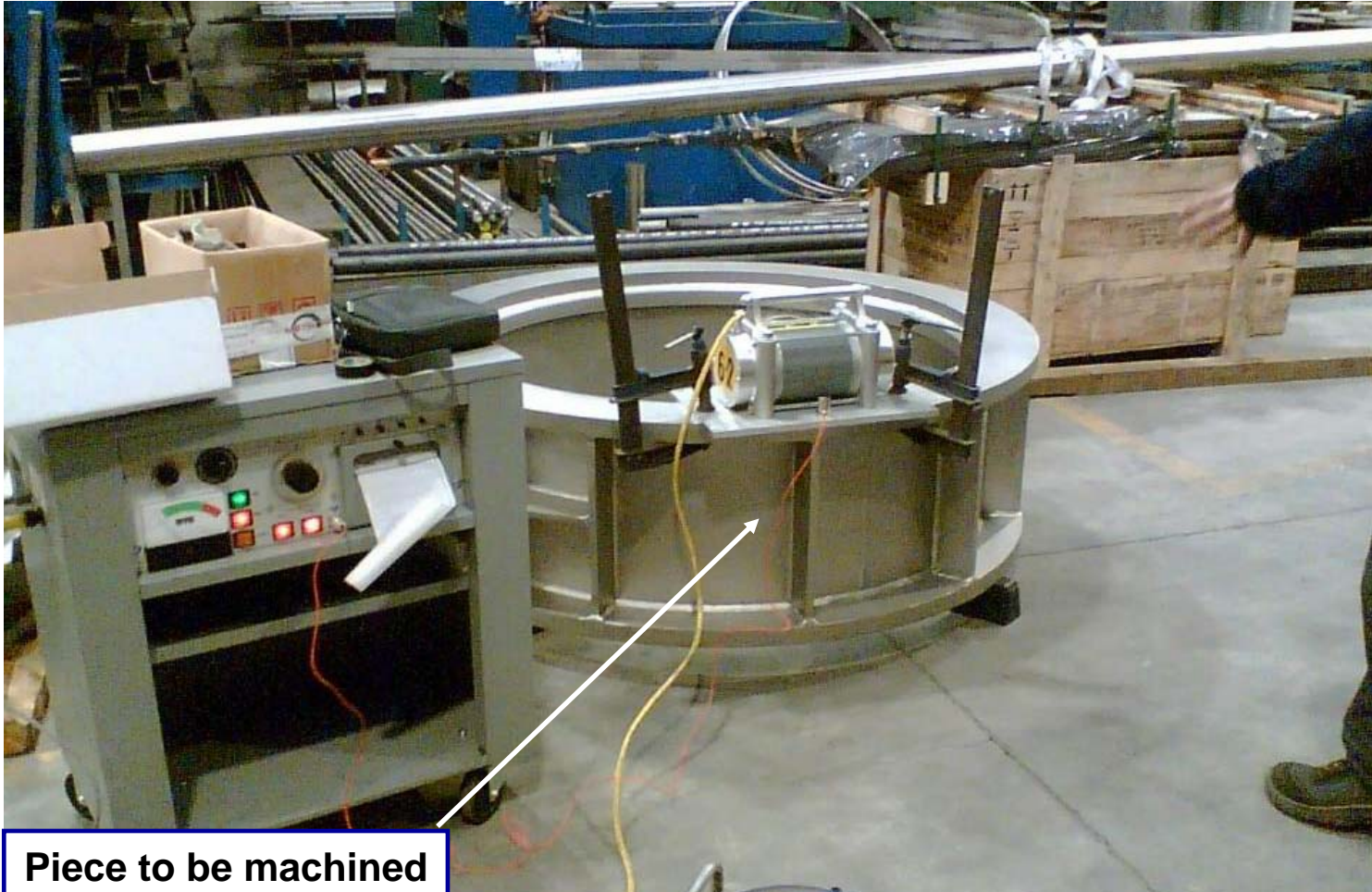
Tooling for forming  
an aircraft wing

## Vibratory Stress Relief Examples



**Heat-treatment stress relief company  
which has added vibratory stress relief  
to its range of services.**

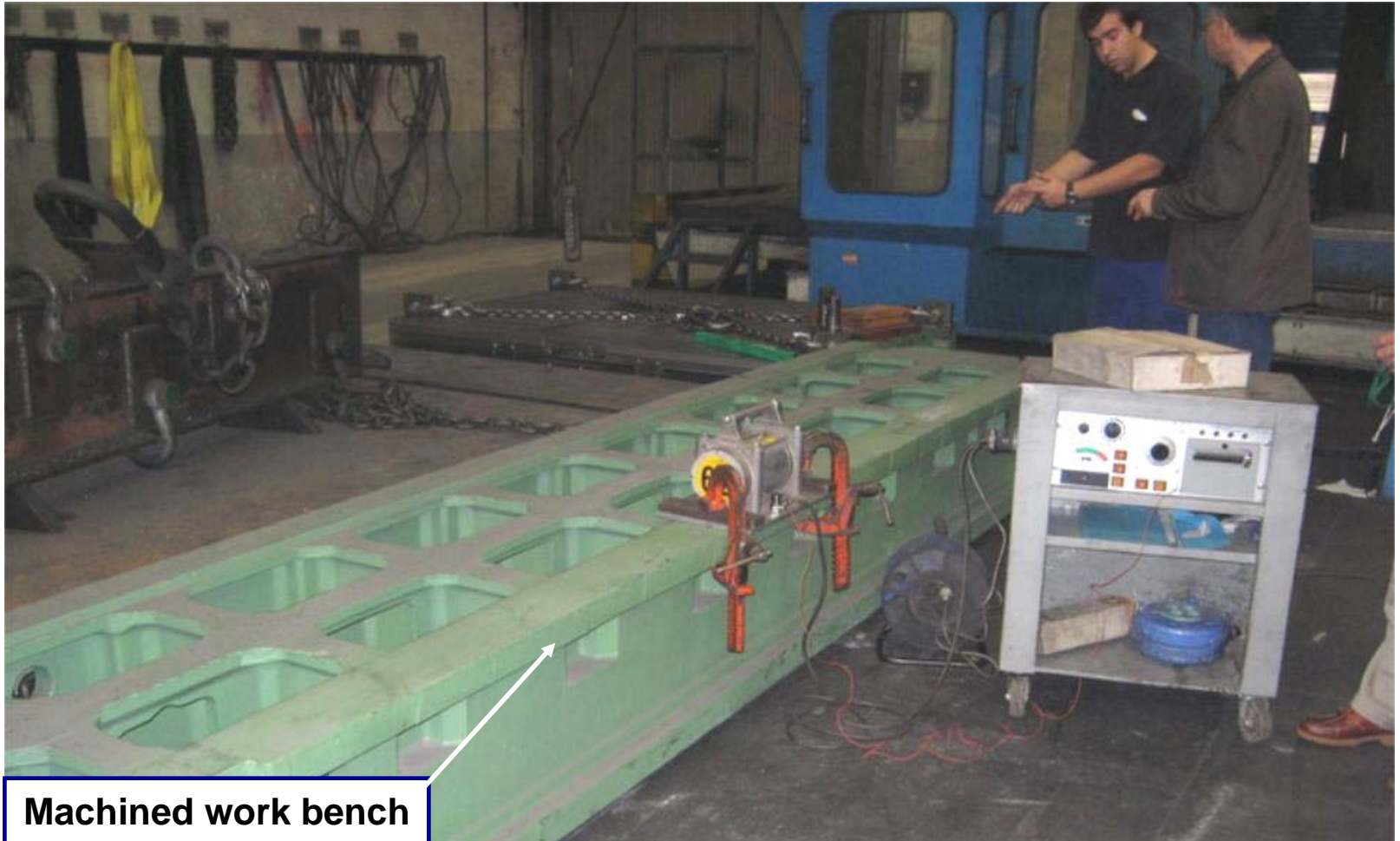
**Vibratory Stress Relief Examples**



**Piece to be machined**



## Vibratory Stress Relief Examples



**Machined work bench**

**Important: isolate the piece off the ground with rubber...**

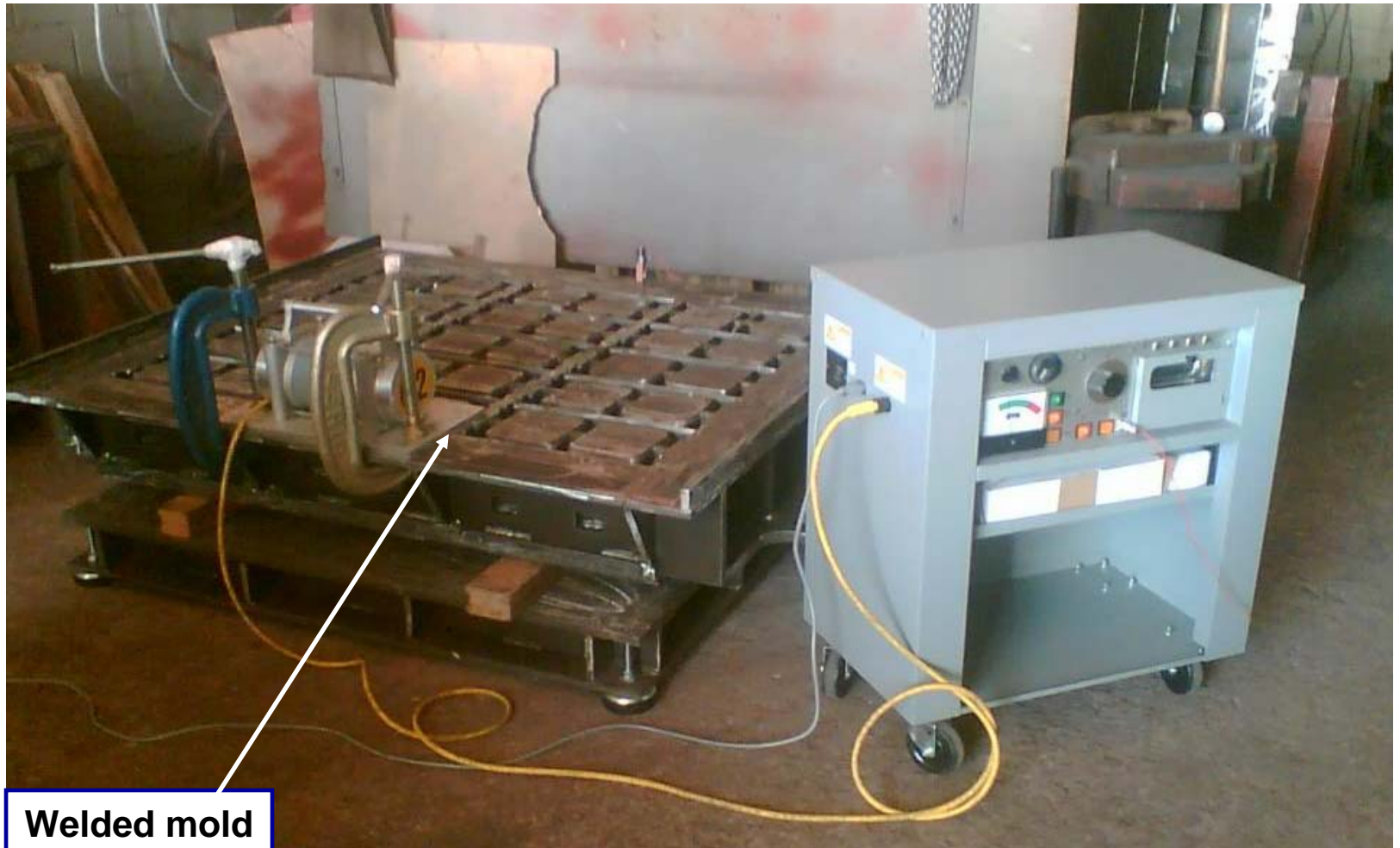


**Value added to manufacturing by adding  
Formula 62 to a finished mold**

...blocks of plastic or  
polyurethane...



...devices with silent-blocks...



**Welded mold**

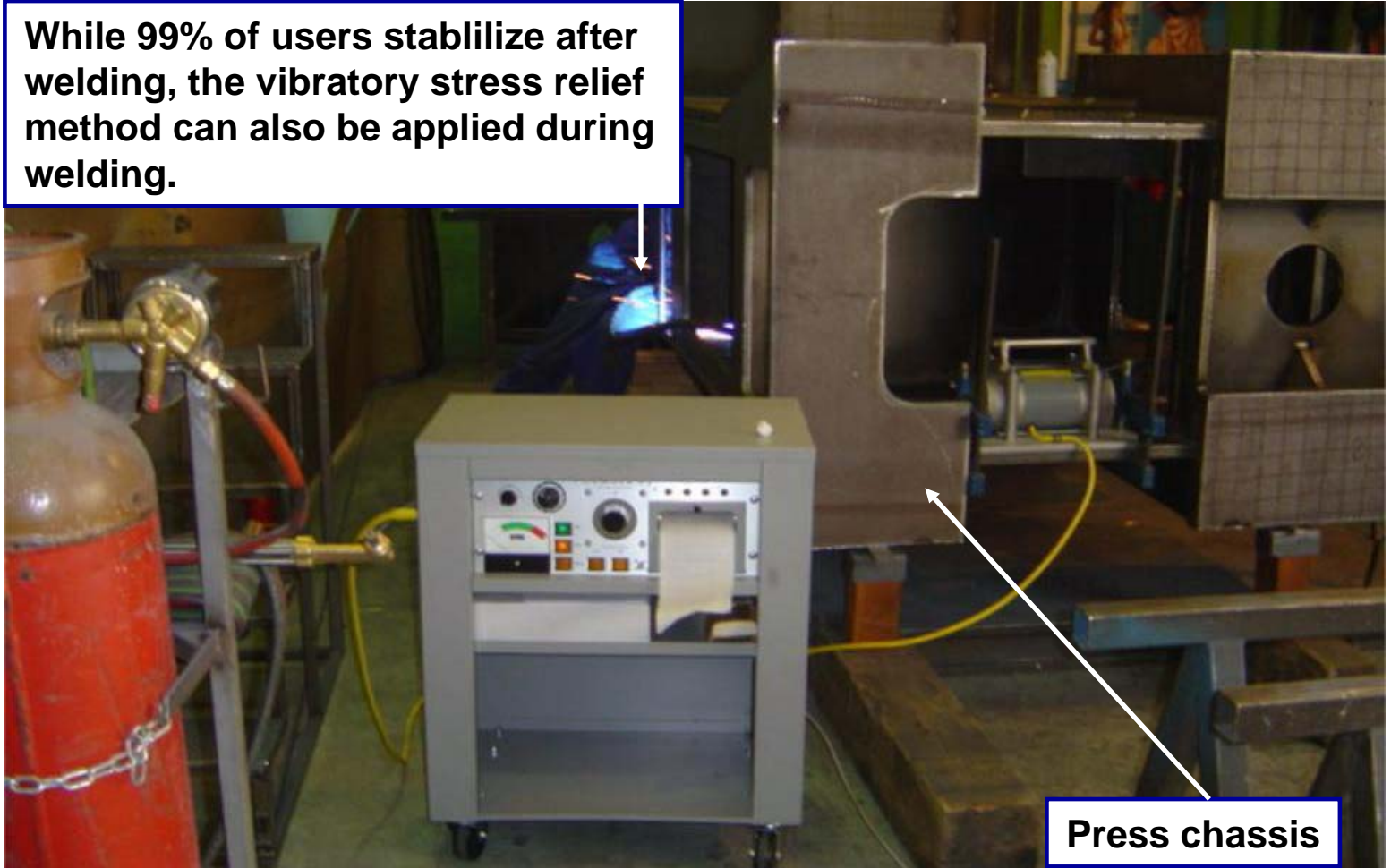
... or, as a last resort, wood...



Furnace, thermal stress relief oven doors

... or combinations of all of these.

While 99% of users stabilize after welding, the vibratory stress relief method can also be applied during welding.



Press chassis

**Secure the motor to the piece which  
is to be stabilized...**



**Fix the motor to the work piece using clamps. It can also be secured in place with screws using the base plate.**

...and the accelerometer recognizes  
the correct vibration signal.



The accelerometer gives the  
ideal frequency and amplitude  
for the work piece.

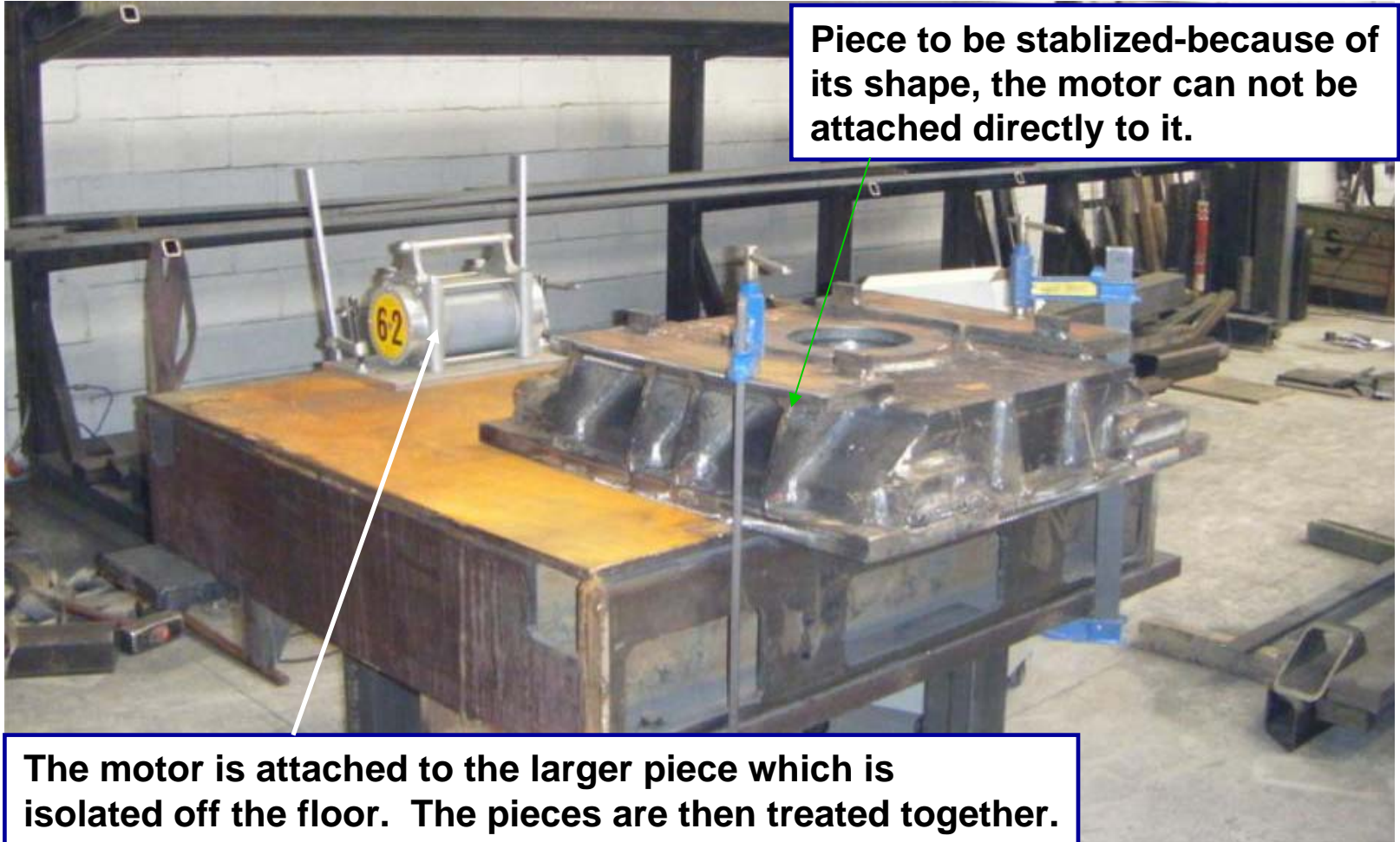


Sometimes the shape of the piece  
influences the work method



Small workpiece isolated  
with wood and rubber

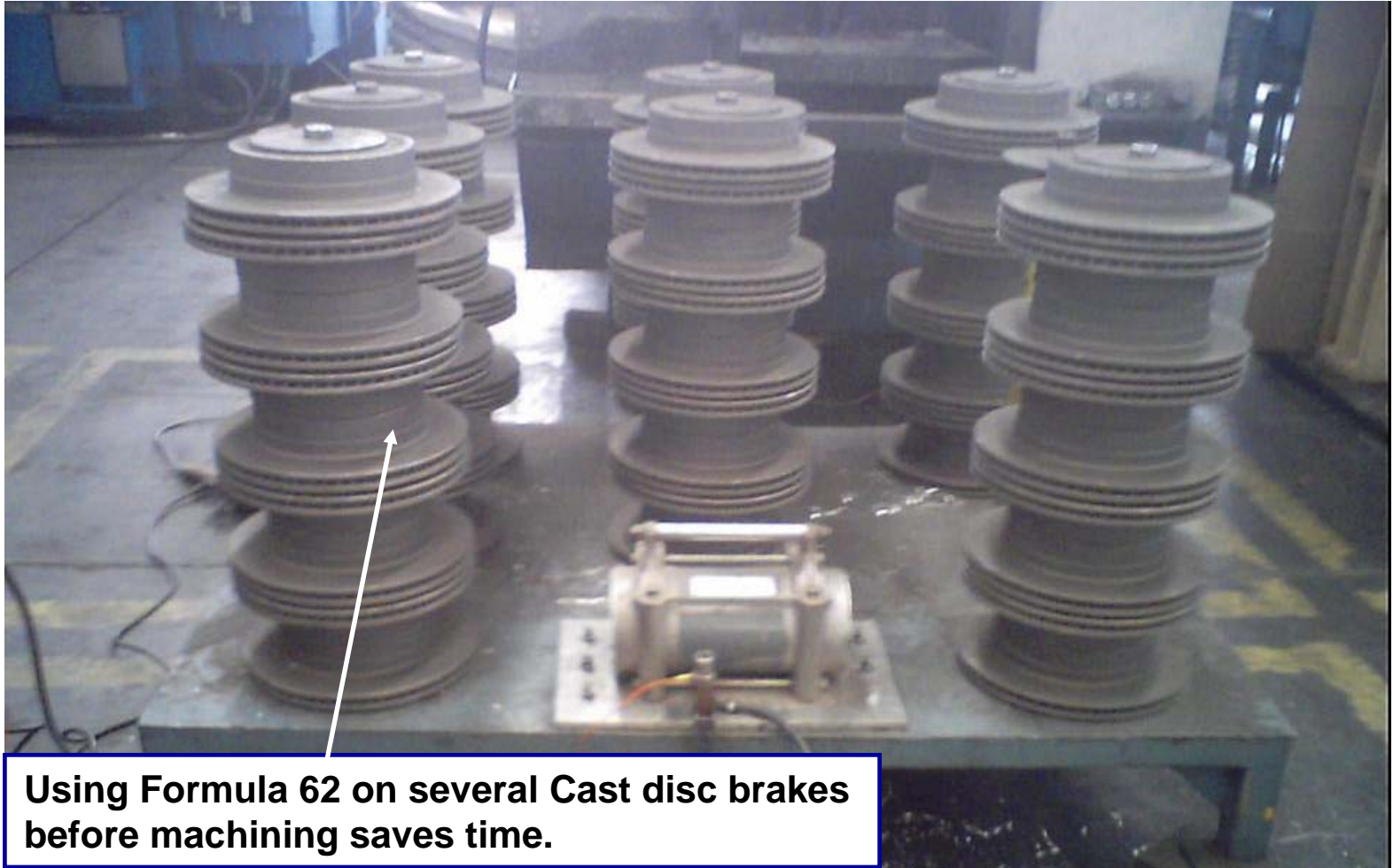
**Smaller piece is attached to a larger piece. Isolate and treat them together...**



**Piece to be stabilized-because of its shape, the motor can not be attached directly to it.**

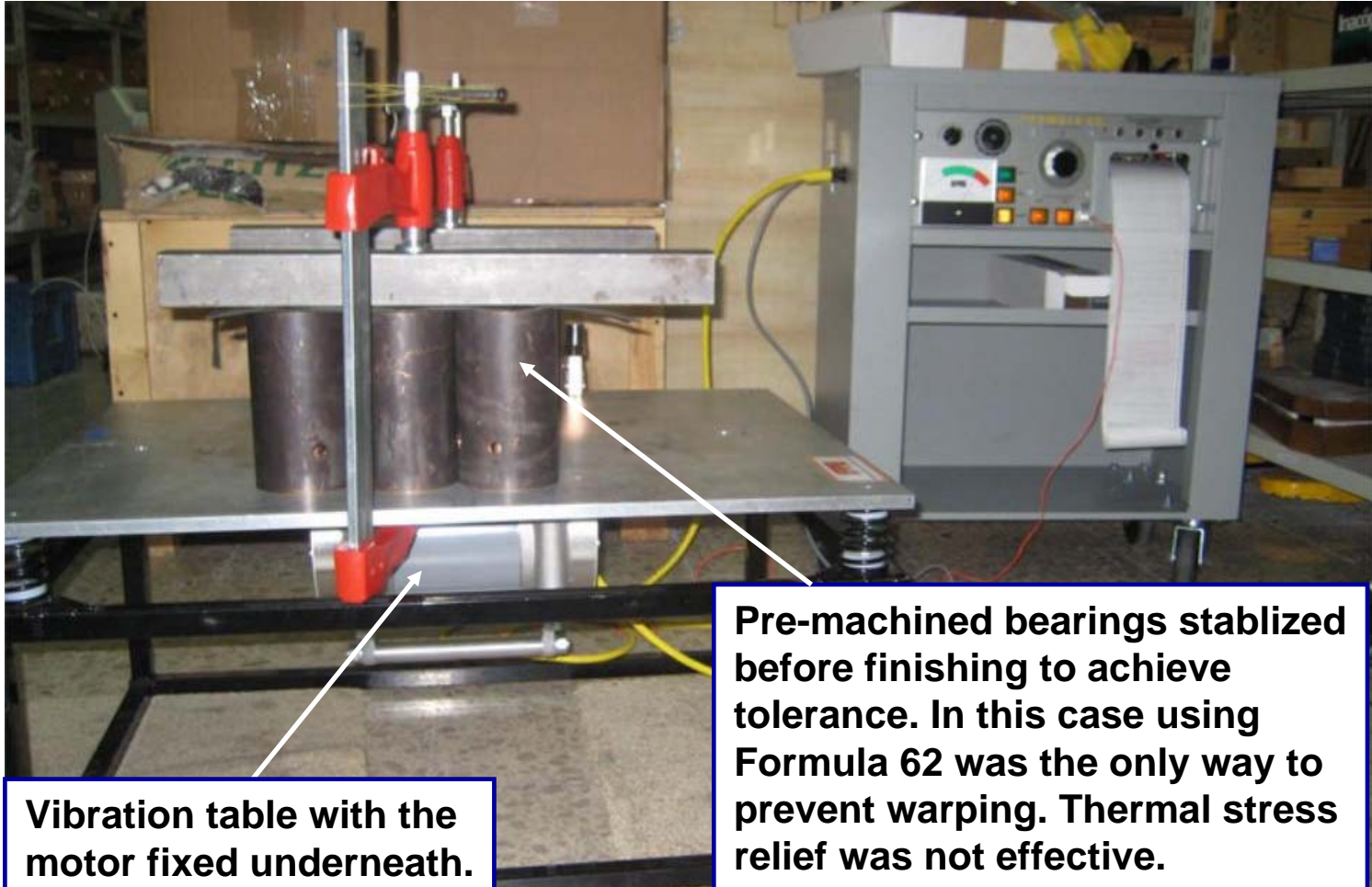
**The motor is attached to the larger piece which is isolated off the floor. The pieces are then treated together.**

Several pieces are treated together by placing them on an isolated pallet...



Using Formula 62 on several Cast disc brakes before machining saves time.

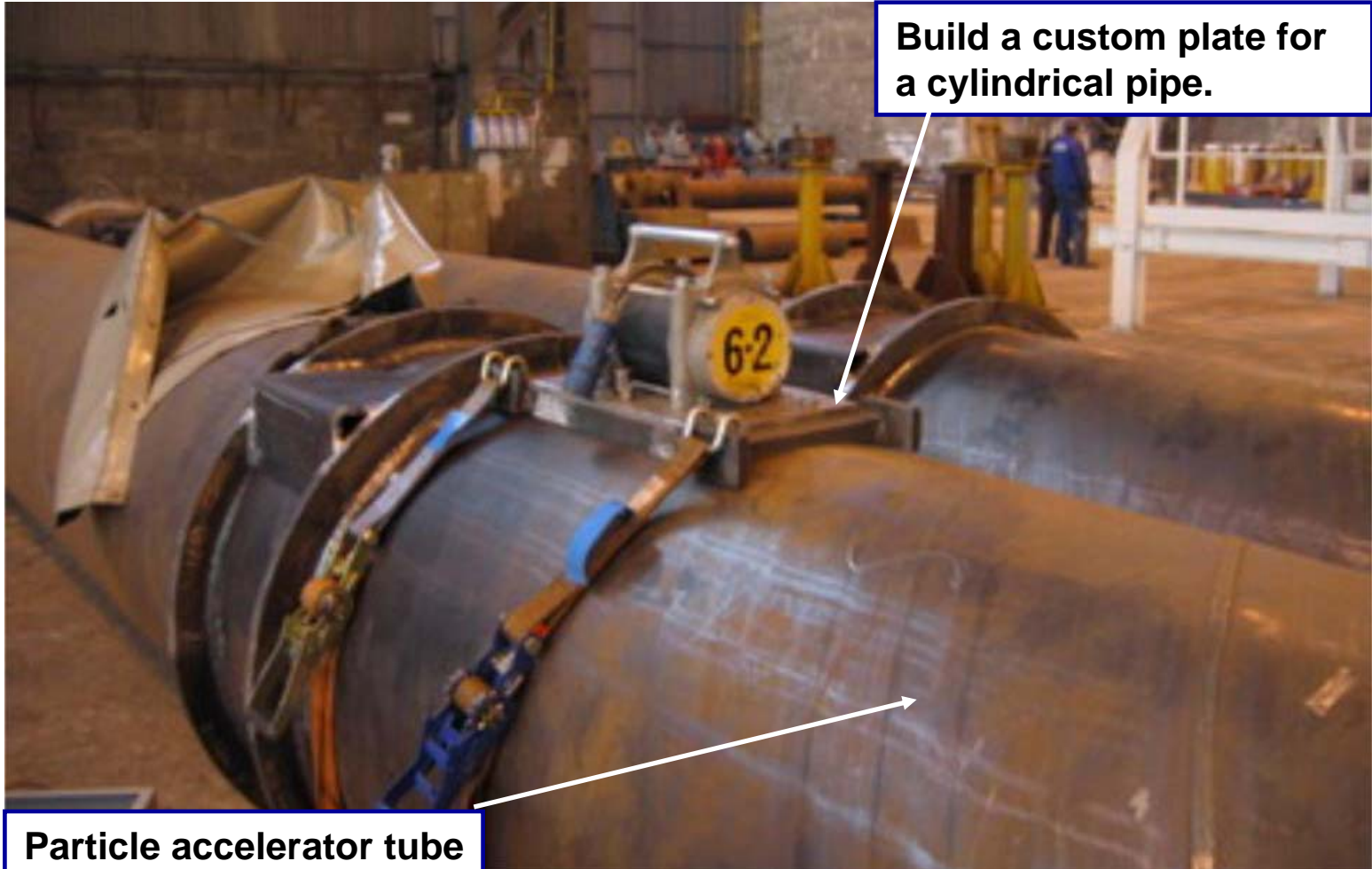
Another option is to create a vibration table with springs.



Vibration table with the motor fixed underneath.

Pre-machined bearings stabilized before finishing to achieve tolerance. In this case using Formula 62 was the only way to prevent warping. Thermal stress relief was not effective.

**Create adapter plates for cylindrical shapes.**



**Build a custom plate for a cylindrical pipe.**

**Particle accelerator tube**

**For large pieces, apply Formula 62  
in several places**



**The motor has a total effectiveness  
within a sphere of 3 meters.**



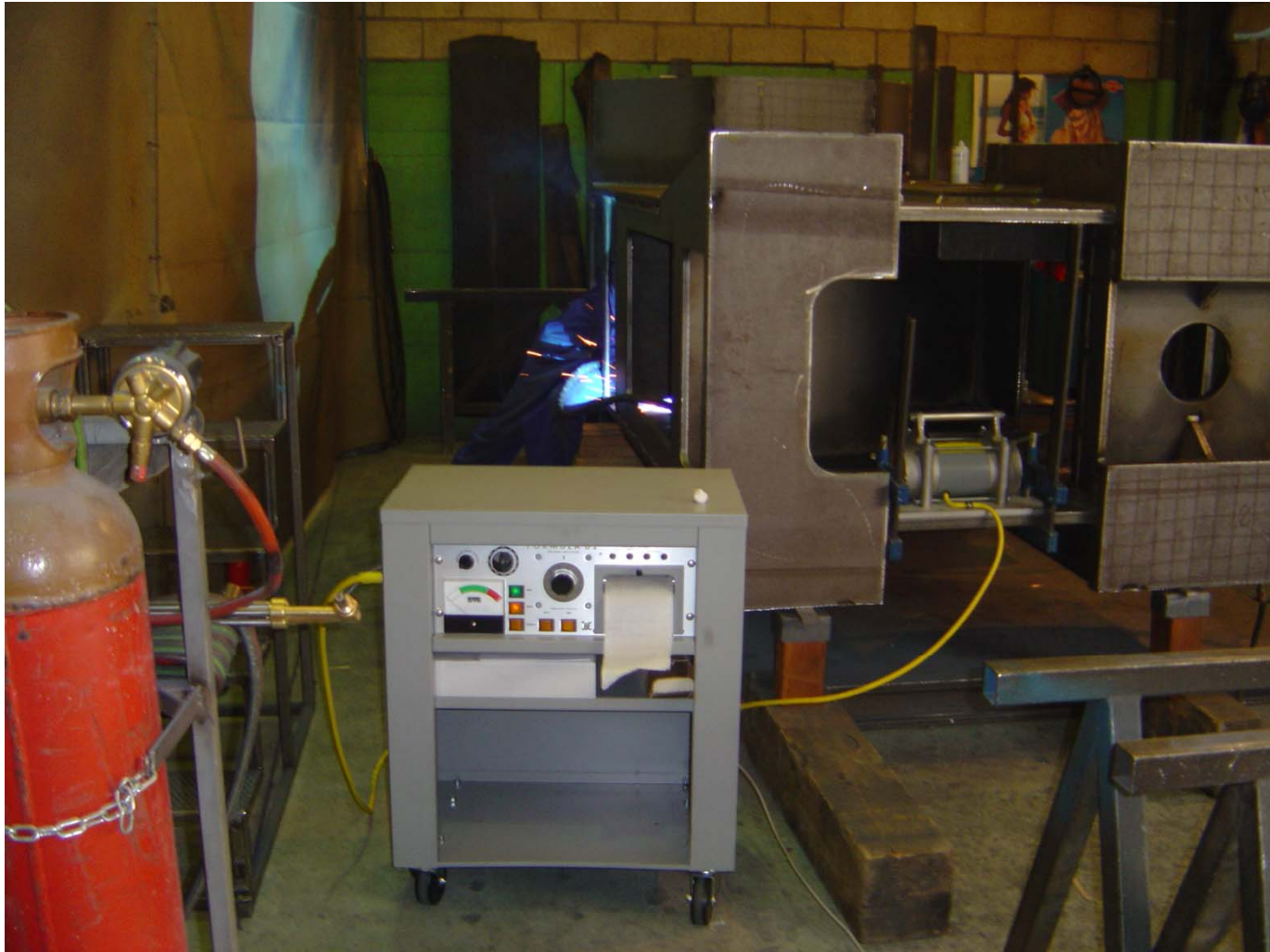












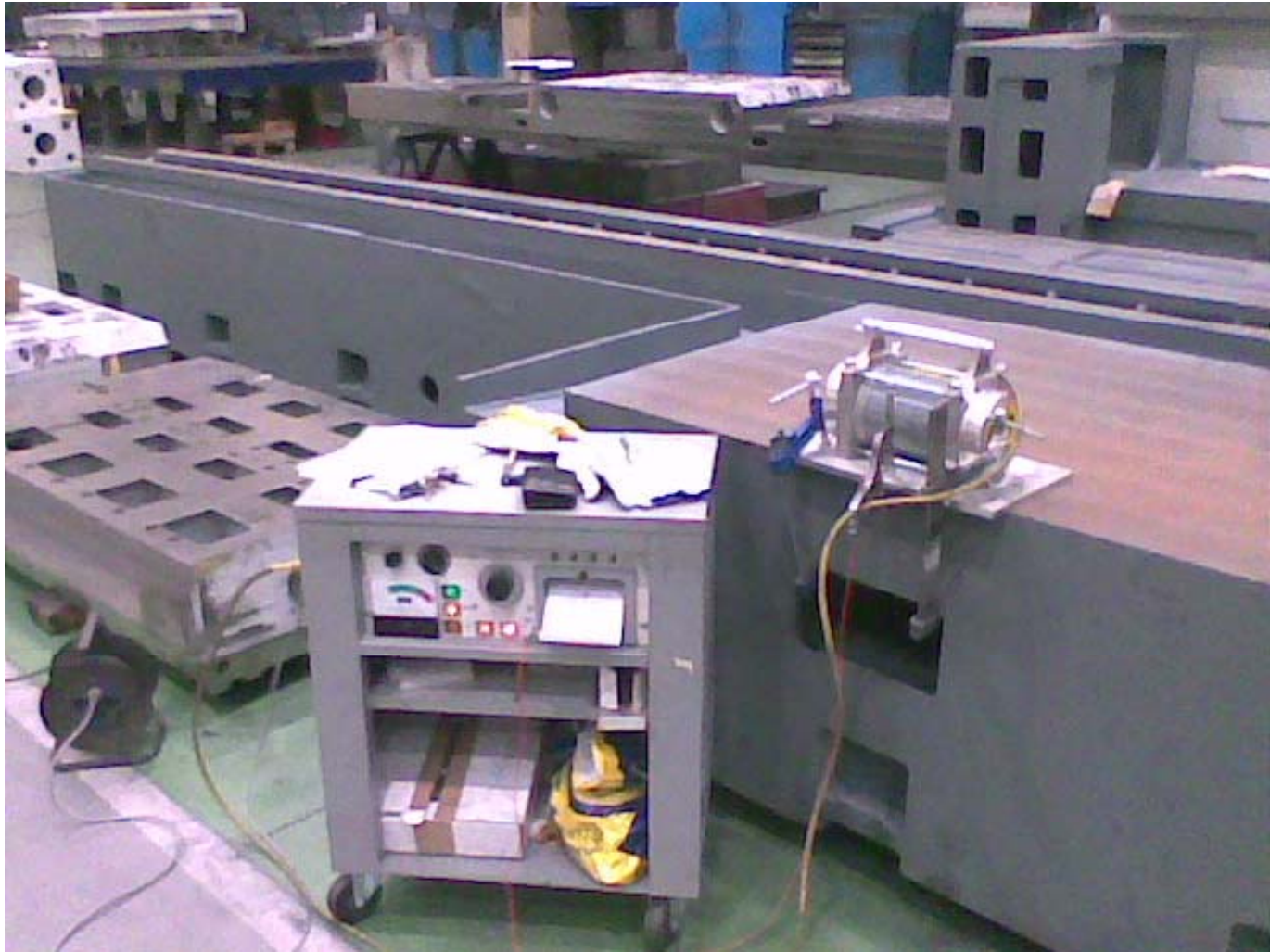


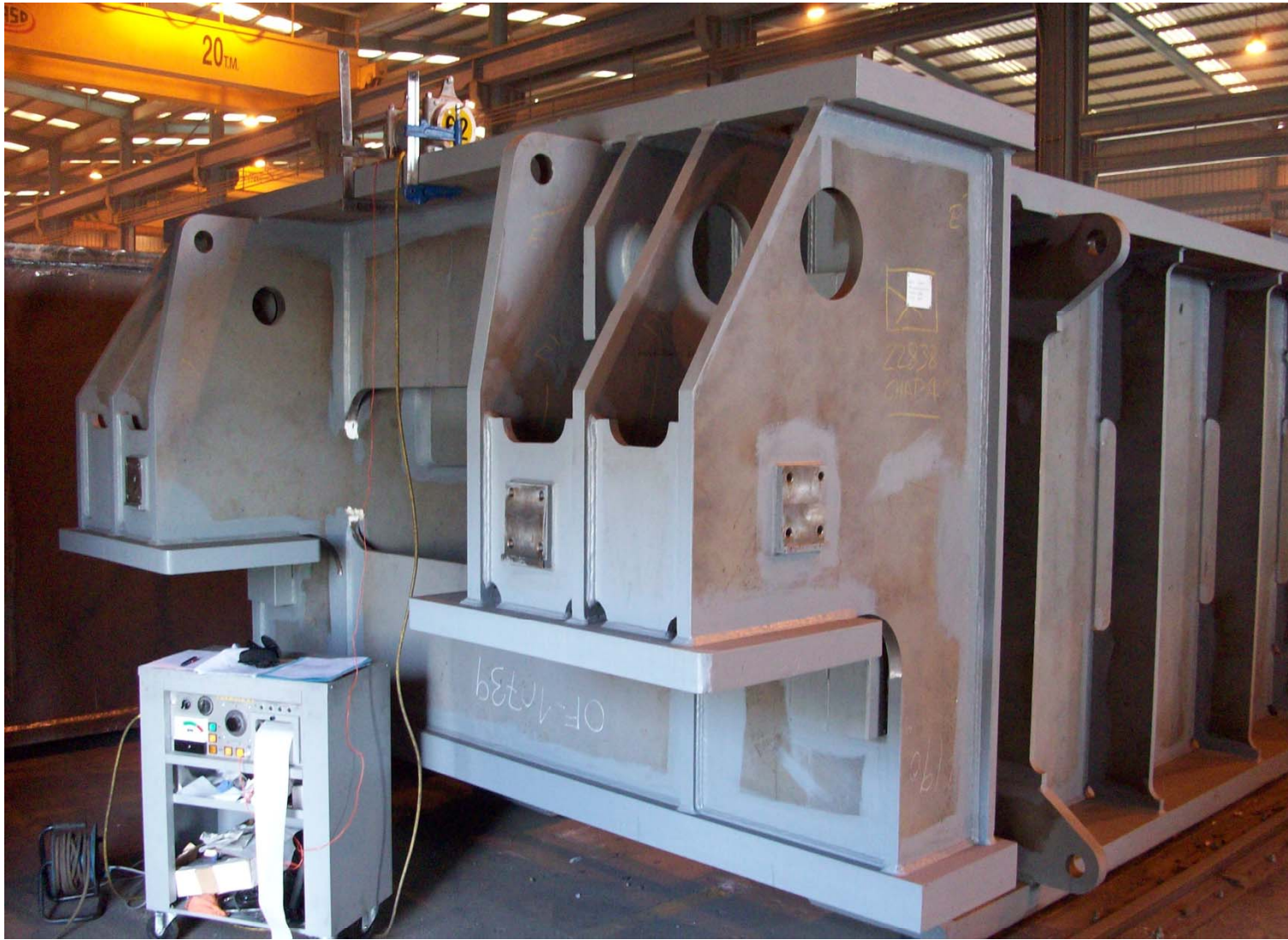




























































**SRE**  
STRESS RELIEF ENGINEERING

Exclusive Export Manager:

**Dreyfus**  
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