



WIAP®

MEMV®



# Metal relax with vibration

## Determination Report: MEMV\_WM858 turbine rings

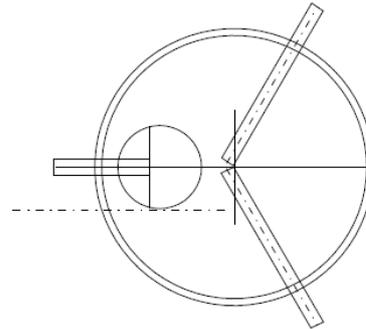
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Created: sw-jw-iw-hp Widmer  
WIAP AG Lts SA  
Industriestrasse 48L  
CH-4657 Dulliken

Phone: ++ 41 62 752 42 60  
Fax: ++ 41 62 752 48 61 [wiap@widmers.info](mailto:wiap@widmers.info)  
[www.wiap.ch](http://www.wiap.ch)

For components in which metal is deeply relaxed with vibration into the structure, it can have great benefits for further processing without delay.

In turbines, there are rings, which are pre-processed. not with the WIAP MEMV treatment - without vibration relaxation it rejects these components. This fact request confirm that a vibration relaxation can bring about something not only for welded structures, but also deep in the structure. What 100% which starch and where it is applied has not been resolved to this day. We're working to enable this behavior, so there may be a norm.



Sketch WM\_858\_1 ring Relaxing System



(Photo from the Internet)

At a plant in Northern Europe Gas turbines are manufactured. The technology is particularly. For the turbine blades 900 mm in diameter are pre-turned to a ring made of refractory steel. Then, with the metal relax unit WIAP® MEMV® vibration is relaxed. After that finished filming and the turbine blades separated by laser out. Without the vibration WIAP relax it rejects the blades and they can not be used. Only thanks to the

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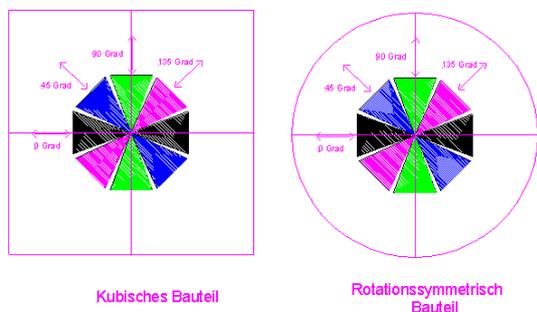
WIAP® MEMV® process, the blades are free from distortion.

There is much more in the process Metal relax with vibration (instead Low stress annealing) as is well known today.

It's not just for Welded constructions suitable, but also for many other applications. Today it is possible to deep in the structure to bring about change with vibration that degrade the delay and delay are tensions.

*As the whole procedure takes place in detail is fixed in a WIAP MEMV program sequence.*

The exact direction to encourage is important. The round plate shown above is stimulated in the center in a ring and achieved in this way also every corner of all zones. The calming effect of this work is so, thanks to the MEMV Star stimulation, guaranteed.



If at all components zone are achieved with the vibration excitations, a voltage reduction can take place. This was recognized even in old technology in the defense industry that eg basement pipes when they should be working in thousandths of a millimeter, only then do

not have a default if they were vibrating. For example, were in previous years, a basement pipe down for weeks on a railroad car around and the tube was shaken and shaken.

Here, too, can be seen that shaking does not have in a railway carriage all excitation directions are identical, but axial and radial movements; respectively. can flow horizontal and vertical movements in one component. The more directions, the better the effect. The WIAP now but a controlled, specific in each direction system, so that "not only about stress relief" can be done but a controlled degradation with the MEMV system.

Based on the analysis of many studies, which makes the WIAP AG since 2014, it is evident that many parameters were always investigated. Namely simply vibrate. but that a vibrating in many directions with different methods and in thicknesses between 1G (= 1 G 9.81 m / s) can until even 40G done that then takes place in different Hertz figures that all those where, when and what data nor are to be determined, shows us that we still have many hours ahead of us in order to determine the exact. The new WIAP MEMV machine software where all directions are excited is certain. It caught all zones, which could not succeed until now. Nevertheless, some updates are also required guarantees to the whole process will be reasonably stable and ensures process security.

In conventional Einachsrichtungs-relaxation method it can happen today that a portion of the component to a specific zone vibrates with 30G, but in a different zone with 0.2G. So what's happening with the tensions? The new system will WIAP MEMV all zones to stimulate a good G value that these tensions not just disappear only in part, but definitely.

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Since it is said that most of the voltages at the first load cycles are reduced, it is also important that all areas can make these load cycles.

But what is also a part of all considerations: If a component is removed, for example, at a plant in Romania, which was exactly the percentages for the decrease in the factory, then during transport to Switzerland it twisted! While transporting. The problem today is solved by the system WIAP MEMV elegantly. (Keyword Cern)

Please ask WIAP AG for a price MEMV system.

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## WIAP® AG Ltd SA

Industriestrasse 48L

CH-4657 Dulliken



**Telefon: ++41 62 752 42 60**

Telefax: ++41 62 752 48 61

**wiad@widmers.info**

www.widmers.info / www.wiap.ch

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