



WIAP®

MEMV®



## Relax metal with vibration

### MEMV\_Rubber Pads\_WM945

hpw\_2019\_Updated April 2019

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#### **WM 945 1 Foreword**

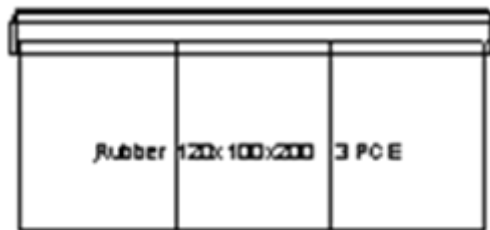
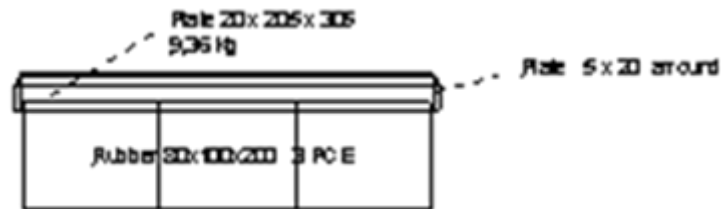
Relaxing metal with vibration The WIAP MEMV system hides a few things that make metal relaxing with vibration safe for a process-safe process.

Among other things, it is very important that the rubber pinch and the position of the rubber are taken into account. In previous WIAP operating instructions, the view was always that it would be better with only 3 editions. However, new measurements have shown that it is better if four supports are not subjected to deflection of the components or too high a point load. In addition, since WIAP was able to take many measurements with the measuring stick in 2014. It was also measured that in the vicinity of the rubber, when highly loaded, there is less excitation in the component than in zones further away from the rubber pad position. For this reason, the report specifically about the rubber is an important finding,

**WM 945 2 rubber information**

MEMV-G-0	Rubber size 0		Rubber with inner grip hole 50 Shore 40x100x200 Kg
MEMV-G-1	Rubber size 1		Rubber with inner grip hole 50 Shore 80x100x200 Kg
MEMV-G-2	Rubber size 2		Rubber with inside handle hole 50 Shore 120x100x200 Kg
MEMV-G-3	Rubber size 3		Rubber with inside handle hole 50 Shore 150x200x200 Kg

metal relaxation system **WIAP MEMV®** Rubber underlay system



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**Single rubber system**

rubber size	bruise	bruise	bruise	bruise	bruise
<b>H x W x L</b>	60% <i>H x 0.4</i>	40% <i>H x 0.6</i>	25% <i>H x 0.75</i>	10% <i>H x 0.9</i>	5% <i>H x 0.95</i>
80x100x200	43200N	28800N	18000N	7200N	3600N
120x100x200	43200N	28800N	18000N	7200N	3600N
<b>200x150x200</b>	64800N	43200N	43200N	10800N	5400N



**Heavy-duty system, single rubber system 3 x 1 piece small or 2 x 1 piece large**

rubber size	bruise	bruise	bruise	bruise	bruise
H x W x L	60%	40%	25%	10%	5%
80x300x200 3 pcs	129600N	86400N	54000N	21600N	10800N
120x300x200 3 pcs	129600N	86400N	54000N	21600N	10800N
200x300x200 2 pcs	129600N	86400N	54000N	21600N	10800N

Best vibration damping results when pinch between 5 to 10%

Load as end stop (impact load) - permanent (max.):  $f_{max} = H \times 0.50$

Load as end stop (impact load) – rarely (max.):  $f_{max} = H \times 0.60$

Continuous load - static (max.):  $f_{max} = H \times 0.15$

Vibration damping:  $f_{max} = H \times 0.05$  to  $0.10 \times H$

Data Collection Gum Information

5% or 60% contusion whether this also has an influence on the G measurement

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WM 945\_3 Plates MEMV vibrate, individually and several



Image 1: Sheet metal plates clamped together, 20 pcs.



Figure 2: Plate vibration. Sufficient rubber pads 100x200x120 10 pcs.

WM 945\_4 MEMV impellers vibrate up to a diameter of 3200 mm



Picture 3: WIAP® MEMV® relax from duplex impeller. Jim Peter Widmer with the WIAP MEMV E fully automatic control unit and printer logs measurements before and after.



Image 4: The WIAP® MEMV® 6-Star support device is set in the positions of the 1300 mm diameter support. This prevents the rubber pads from moving away during resonance movements. At best, also that the operators prevent it from tipping over when stepping on the impeller. The outside diameter of the impeller was 1500 mm; the rubber has a radius of 650 mm.



Image 5: The impeller when placed on the secured rubber pads.



Photo 8: Jim Widmer attaching the lifting ropes.

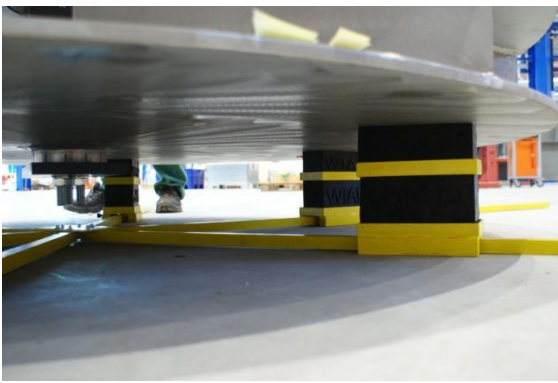


Image 6: The edition of the secured documents.



Figure 9: Rubber pads for 110 tons: (See more details from report WM877 60 tons).



Image 7: This ensures that the slipping away if a natural resonance is overridden and if there is too long, strong vibration.



Figure 10: Rubber pads 300 x 600 mm

WM 945\_5 110 tons component MEMV vibration

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WM 945 \_ 6 60 tons MEMV component vibrating



Image 11: Sven Widmer preparing the 60 ton component.



Picture 12: The rubber bruise was big.

WM 945\_8 Closing word rubber information

The fact that the rubber pads are very important for the WIAP MEMV vibration has been shown in component tests in recent years. A component is stimulated evenly if there are enough supports

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Image 13: Here the 60% of the rubber squeeze was reached, more should be avoided.



Photo 14: Here the uneven surface has put too much strain on the rubber. Since the component here was made of narrow lower plates, an upper plate should prevent the rubber from being damaged.

WM 945\_7

under the component. If the individual point loads are not too great, a better distribution of the longitudinal, transverse and shear waves can take place. A single rubber pad cushioning should be minimized and if the 15% resilience is not exceeded



it is a good solution. For this reason, it is better to plan more than fewer documents for a component. It is important not to save when purchasing rubber. The right choice of rubber is also important. Enough rubber pads. Choose the right hardness. Buildings with basements should be viewed with caution, i.e. always take a good look at whether vibrations are transmitted to adjacent zones. If yes, increase the rubber height from 80 / 120 to 200 mm.

Protect rubber from light so that it does not harden. Replace rubber when hard. Do not save, otherwise the results will be insufficient for the MEMV process.

Dulliken/Safenwil 9.4.2019

Thank you greetings WIAP sw, jw, iw, hpw