

# SOLID TECH

## VIBRATION MEASUREMENT & VIBRATION ANALYSIS.

<b>Equipment:</b>	Vibration sensor:	Geophone, Texas
<b>Instruments:</b>	Vibration sensor:	VTI Hamlin
<b>Audio Generator:</b>	GW Instrument	
<b>Data-logger:</b>	PC-CARD-DAS16/16AO, Measurement Computing	
<b>Software:</b>	DASY Lab	
<b>Room description:</b>	Wooden Floor (spruce) 27,5m <sup>2</sup>	
<b>Temperature:</b>	18°C	
<b>Sound pressure:</b>	70-80db	
<b>Sound measurement:</b>	Cel-573	

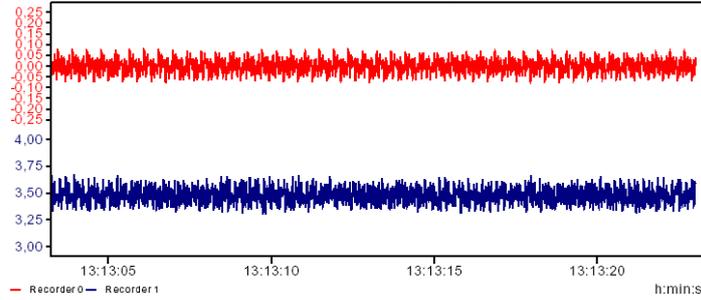
**Object 1:** Discs of Silence, permanently mounted on the Radius racks' base-corner-pillars, loaded at 50% of its working span.

**Object 2:** IsoClear placed on the floor, loaded at 50% of its working span

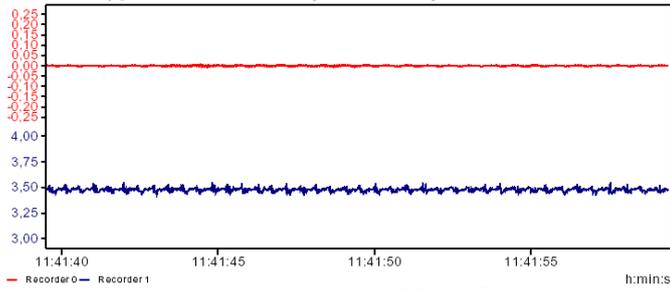
**Red Curve** = Z direction (the up and down movement)

**Blue Curve** = X-Y direction (lateral movement – left, right )

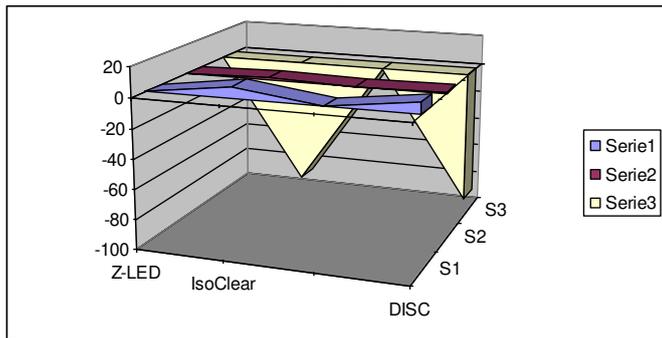
**20Hz, sensors (accelerometers) placed on the floor**



**20Hz, IsoClear, placed on the floor, sensors placed on the object.**



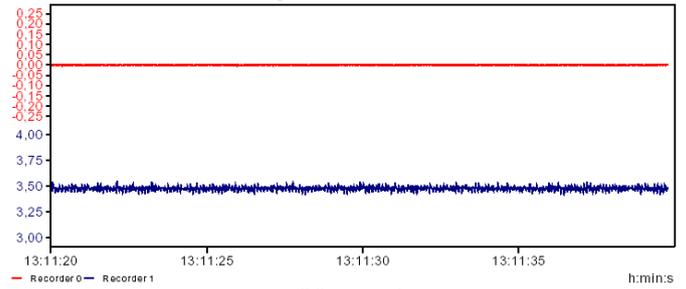
**Measurement analysis 20Hz, Z direction.**



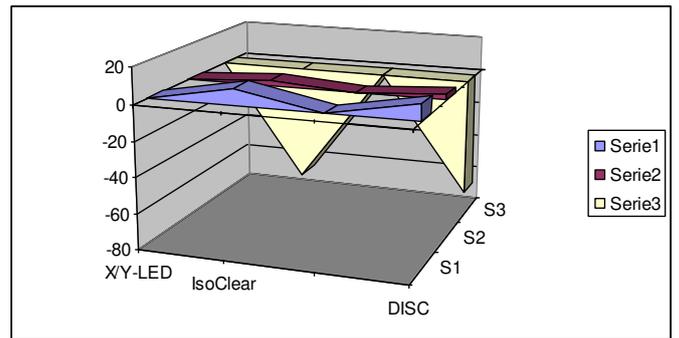
- Serie 1 = Vibrations on the floor.
- Serie 2 = Vibrations on Isoclear (left column).
- Discs of Silence equipped Radius rack (right column).
- Serie 3 = Reduction of vibrations in %

Isoclear = 84,64% reduction at 20HZ  
 Discs of Silence equipped Radius rack = 88,48%  
 reduction on the shelf at 20Hz.

**20Hz, Discs of Silence equipped Radius rack placed on the floor, sensors placed on the shelf.**



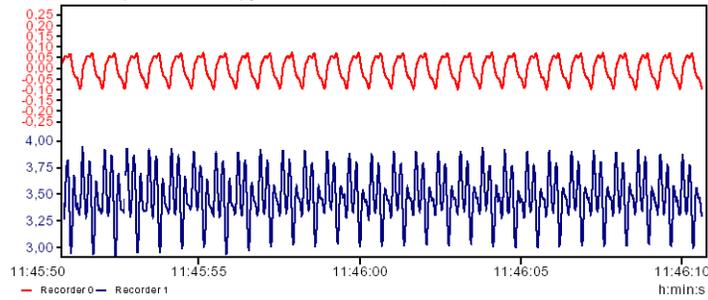
**Measurement analysis 20Hz, X/Y direction.**



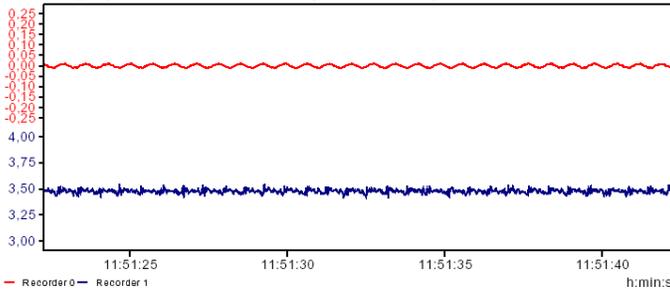
- Serie 1 = Vibrations on the floor.
- Serie 2 = Vibrations on the Isoclear (left column).
- Discs of Silence equipped Radius rack (right column)
- Serie 3 = Reduction of vibrations in %

Isoclear = 65,23% reduction at 20Hz  
 Discs of Silence equipped Radius rack = 66,22%  
 reduction on the shelf at 20Hz,

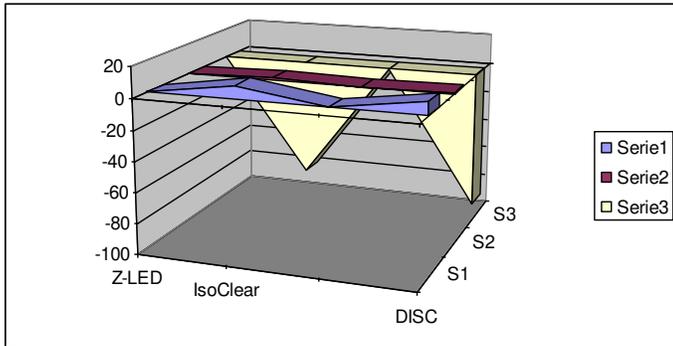
**50Hz, sensors (accelerometers) placed on the floor.**



**50Hz, IsoClear, placed on the floor, sensors placed on the object.**



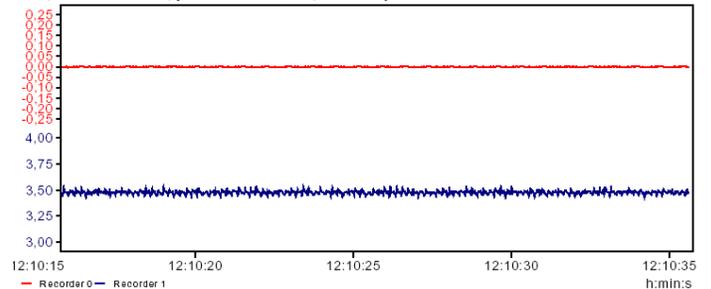
**Measurement analysis 50Hz, Z direction.**



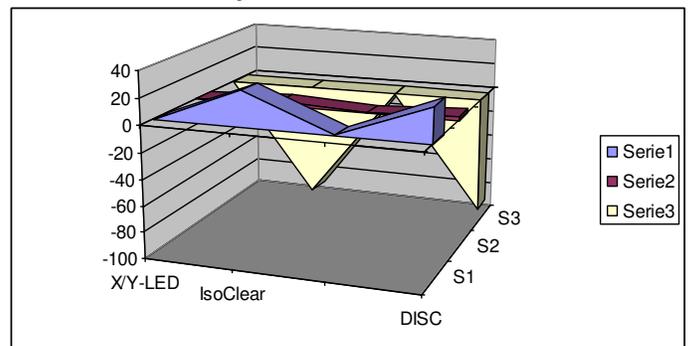
Serie 1 = Vibrations on the floor.  
 Serie 2 = Vibrations on Isoclear (left column).  
 Discs of Silence equipped Radius rack (right column).  
 Serie 3 = Reduction of vibrations in %

Isoclear = 77,73% reduction at 50Hz  
 Discs of Silence equipped Radius rack = 89,22% reduction on the shelf at 50Hz.

**50Hz, Discs of Silence, equipped Radius rack placed on the floor, sensors placed on the shelf.**



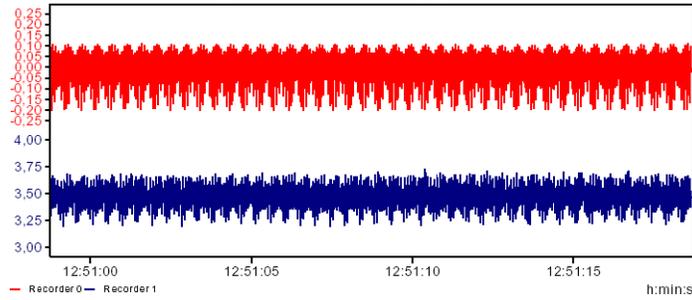
**Measurement analysis 50Hz, X/Y direction.**



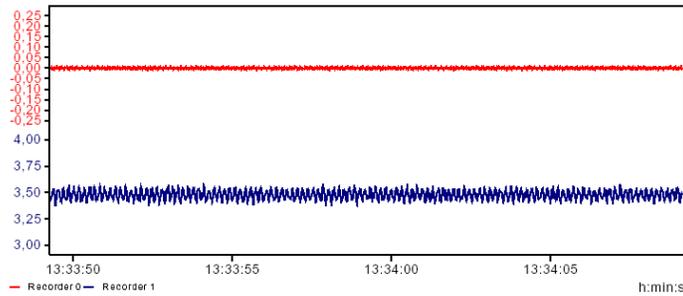
Serie 1 = Vibrations on the floor.  
 Serie 2 = Vibrations on the Isoclear (left column).  
 Discs of Silence equipped Radius rack (right column)  
 Serie 3 = Reduction of vibrations in %

Isoclear = 87,18% reduction at 50Hz  
 Discs of Silence equipped Radius rack = 88,44% reduction on the shelf at 50Hz,

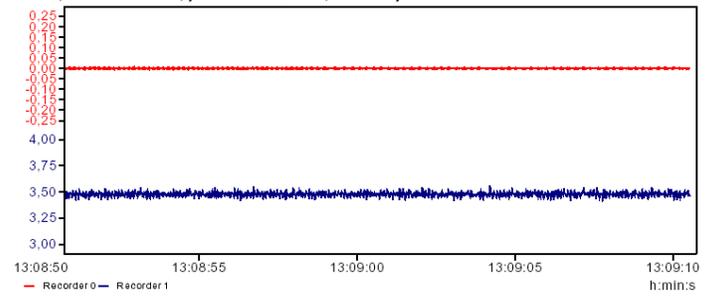
**70Hz, sensors (accelerometers) placed on the floor.**



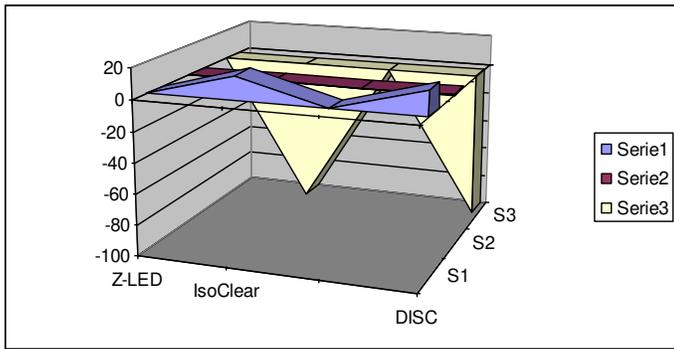
**70Hz, IsoClear, placed on the floor, sensors placed on the object.**



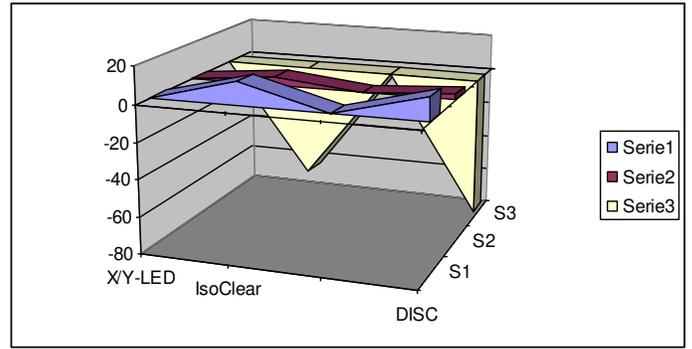
**70Hz, Discs of Silence, equipped Radius rack placed on the floor, sensors placed on the shelf.**



**Measurement analysis 70Hz, Z direction.**



**Measurement analysis 70Hz, X/Y direction.**



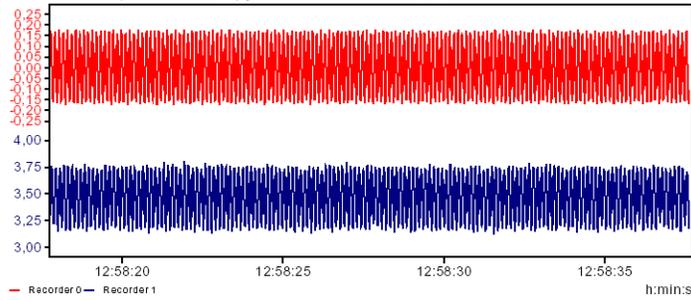
Serie 1 = Vibrations on the floor.  
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 Serie 3 = Reduction of vibrations in %

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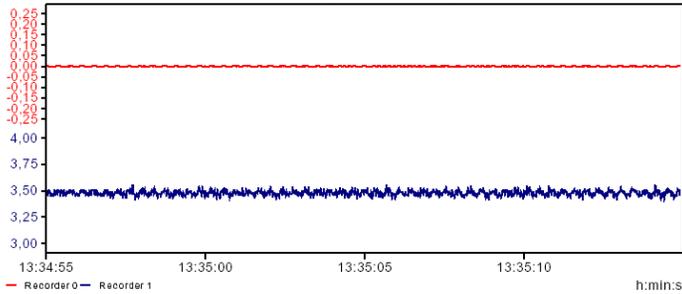
Isoclear = 94,07% reduction at 70HZ  
 Discs of Silence equipped Radius rack = 94,39% reduction on the shelf at 70Hz.

Isoclear = 61,98% reduction at 70HZ  
 Discs of Silence equipped Radius rack = 76,37% reduction on the shelf at 70Hz.

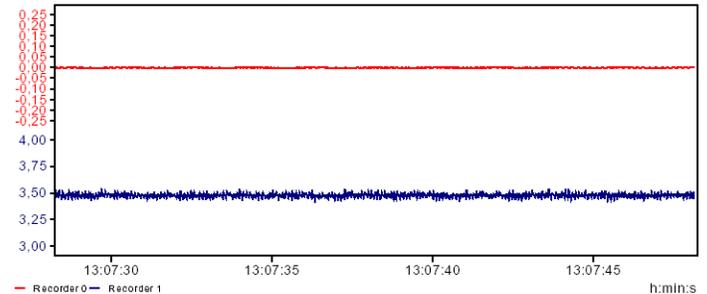
**150Hz, sensors (accelerometers) placed on the floor.**



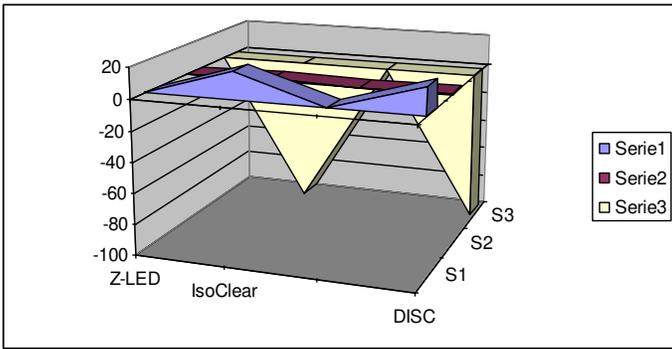
**150Hz, IsoClear, placed on the floor, sensors placed on the object.**



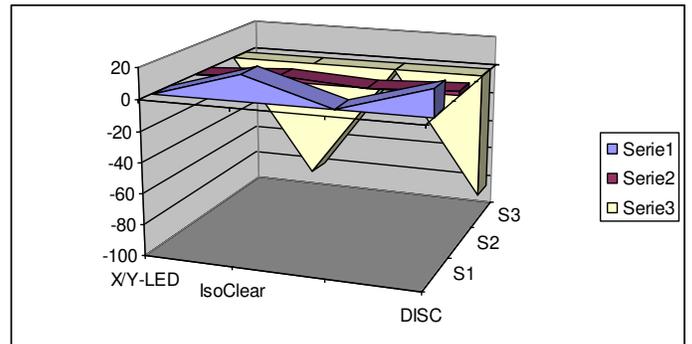
**150Hz, Discs of Silence, equipped Radius rack placed on the floor, sensors placed on the shelf.**



**Measurement analysis 150Hz, Z direction.**



**Measurement analysis 150Hz, X/Y direction.**



- Serie 1 = Vibrations on the floor.
- Serie 2 = Vibrations on Isoclear (left column).
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- Serie 3 = Reduction of vibrations in %

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- Discs of Silence equipped Radius rack (right column).
- Serie 3 = Reduction of vibrations in %

Isoclear = 93,81% reduction at 150HZ  
 Discs of Silence equipped Radius rack = 95,87% reduction on the shelf at 150Hz.

Isoclear = 77,56% reduction at 150HZ  
 Discs of Silence equipped Radius rack = 82,76% reduction on the shelf at 150Hz.