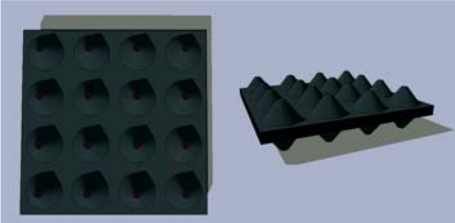
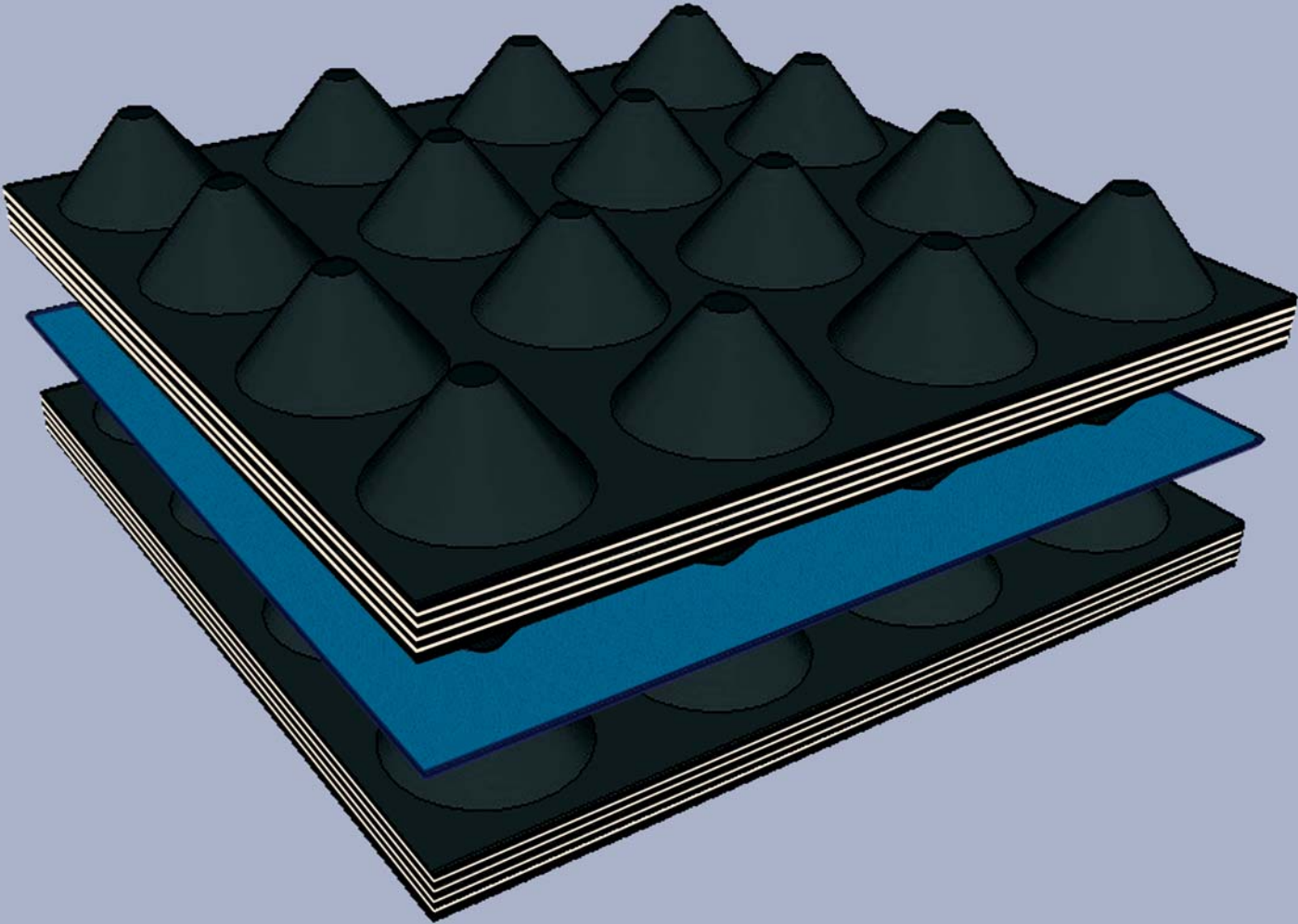


Cires

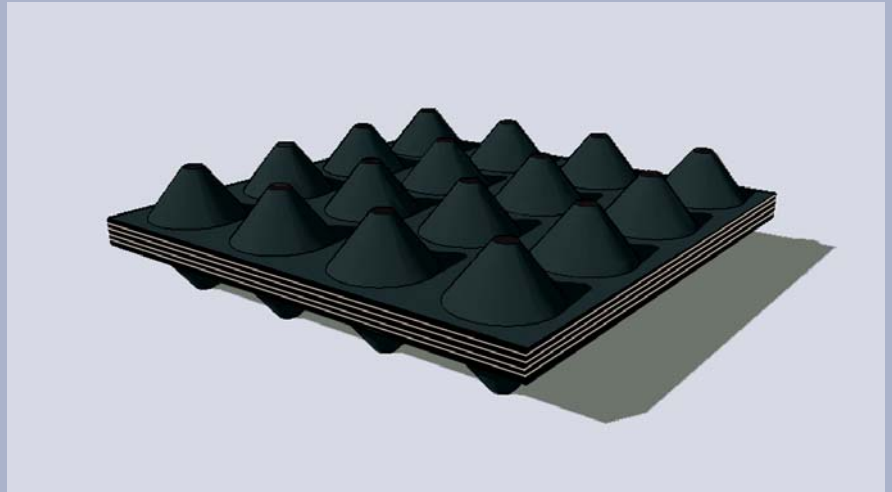


*Effective Vibration Insulation for all Kinds
of Machines*

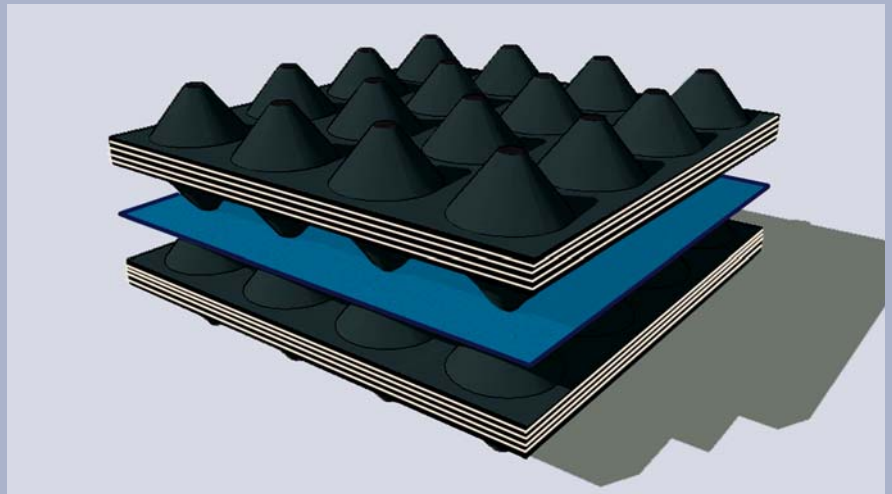
Cires Versions

General

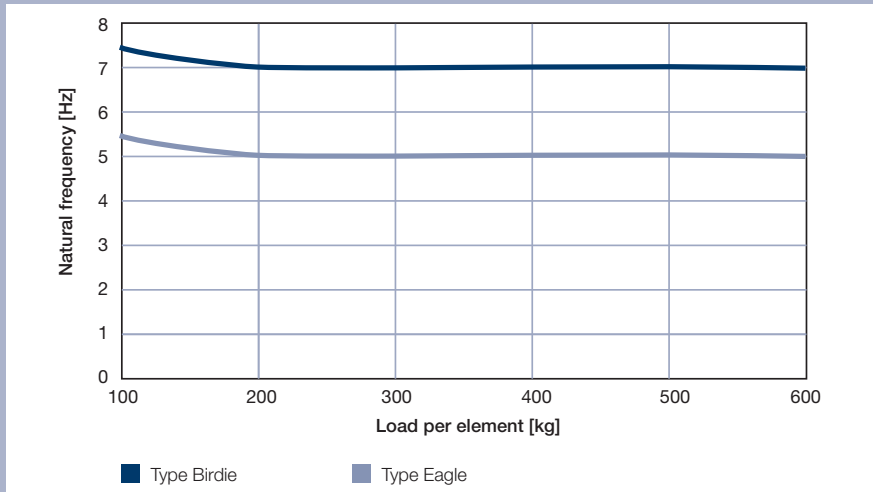
When using resilient standard elements with approximate constant spring rate – e. g. steel springs, PU foams, cylindrical rubber buffers – the problem is that the tuning frequency of a machine's resilient support depends on the load applied. In order to achieve a certain tuning frequency the loads of all components must be known. To avoid overloading of individual spring elements a resilient support using such elements must be designed by an expert. The position of the bearings has to be determined fairly exactly. This requires a relative high effort concerning the support of e. g. an air conditioning system. Cires elements show a property which especially favours them for this kind of structural task. With Cires a constant tuning frequency can be achieved within an extensive load range.



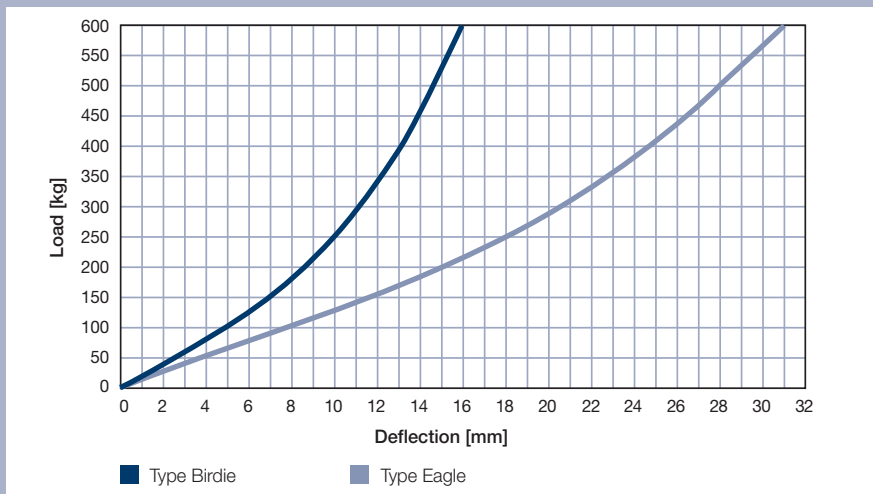
Picture 1: Cires, Type Birdie



Picture 2: Cires, Type Eagle



Picture 3: CIRES, Natural Frequencies



Picture 4: CIRES, Deflections referred to the Load per Element

Positioning and mounting of the elements is rather simple. It is sufficient to know the total weight of the machinery and of the foundation, if existing. The position of the individual parts of the machinery to be resiliently supported as well as the one of the foundation is almost meaningless due to the high flexibility of the Cires elements. The number of elements required are determined by means of picture 5 and the approximate total weight of the mass to be insulated (machinery plus foundation slab if existing). The Cires elements easily level uneven floors. Due to the special Cires properties it is not necessary to pay too much attention to their exact positioning. In case the load of the machinery is unevenly distributed over the foundation slab, the Cires elements simply are moved towards the heavier loads. Then the machinery is put in place.

Note: Horizontal forces must not be absorbed by Cires elements but by additional structural measures.

Cires Mounting

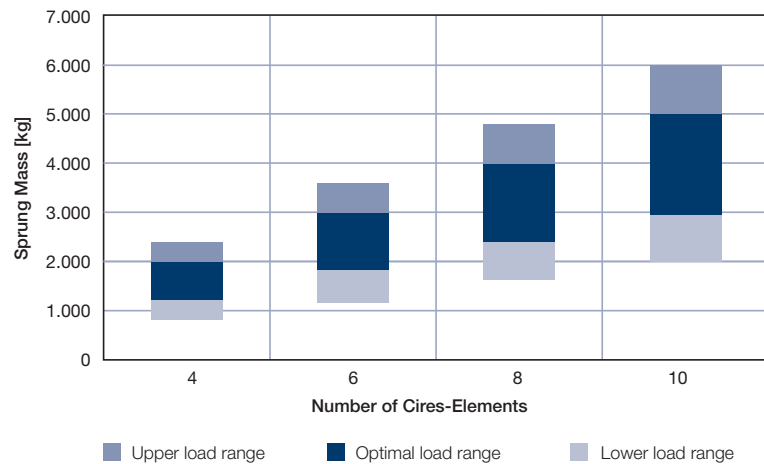
Cires Insulating Effect

Technical Data

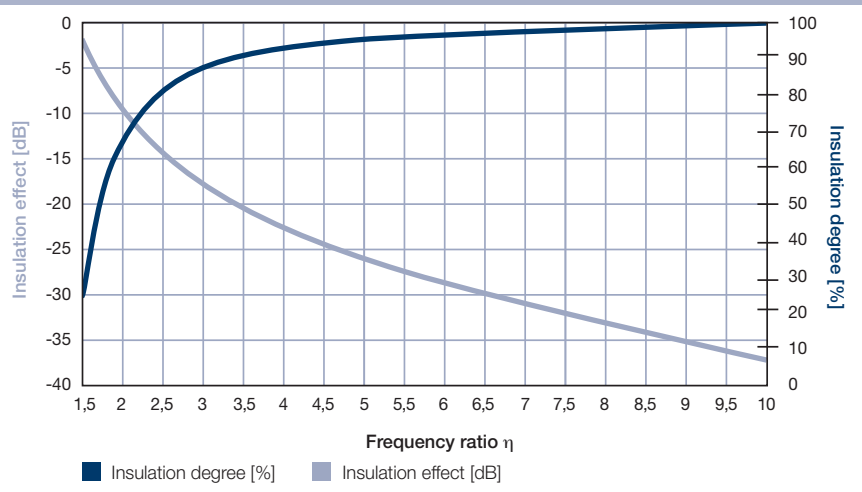
Type	Eagle	Birdie
Length	250 mm	250 mm
Width	250 mm	250 mm
Thickness	135 mm	65 mm
Natural		
Frequency	5 Hz	7 Hz
Load/Element	200-600 kg	200-600 kg

Dimensional tolerance according to DIN 7715

For the type Birdie the effect of protection against vibration begins with a frequency of 10 Hz. For frequencies of 20 Hz and higher an optimal protection against vibration with an effect of at least 15 dB is achieved. For the type Eagle the corresponding frequencies are 7 Hz and 15 Hz respectively. As regular rpm of e. g. an air conditioning are at 25 Hz, for this a support with type Birdie is entirely sufficient. Due to the low natural frequencies of 7 Hz and 5 Hz respectively, the elements are also suitable for machines running relatively slowly.



Picture 5: Cires, Determination of the required number depending on the load



Picture 6: Insulation effect and degree depending on the frequency ratio

Calenberg Ingenieure,
planmäßig elastisch lagern GmbH
Am Knübel 2-4
D-31020 Salzhemmendorf
Tel. +49 (0) 5153/9400-0
Fax +49 (0) 5153/9400-49
info@calenberg-ingenieure.de
www.calenberg-ingenieure.de

The contents of this publication are the result of many years of research and experience gained in application technology. All information is given in good faith; it does not represent a guarantee with respect to characteristics and does not exempt the user from testing the suitability of products and from ascertaining that the industrial property rights of third parties are not violated. No liability whatsoever will be accepted for damage – regardless of its nature and its legal basis – arising from advice given in this publication. This does not apply in the event that we or our legal representatives or management are found guilty of having acted with intent or gross negligence. No liability is borne for damage due to ordinary negligence. This exclusion of liability applies also to the personal liability of our legal representatives and employees and other persons employed in performing our obligations.