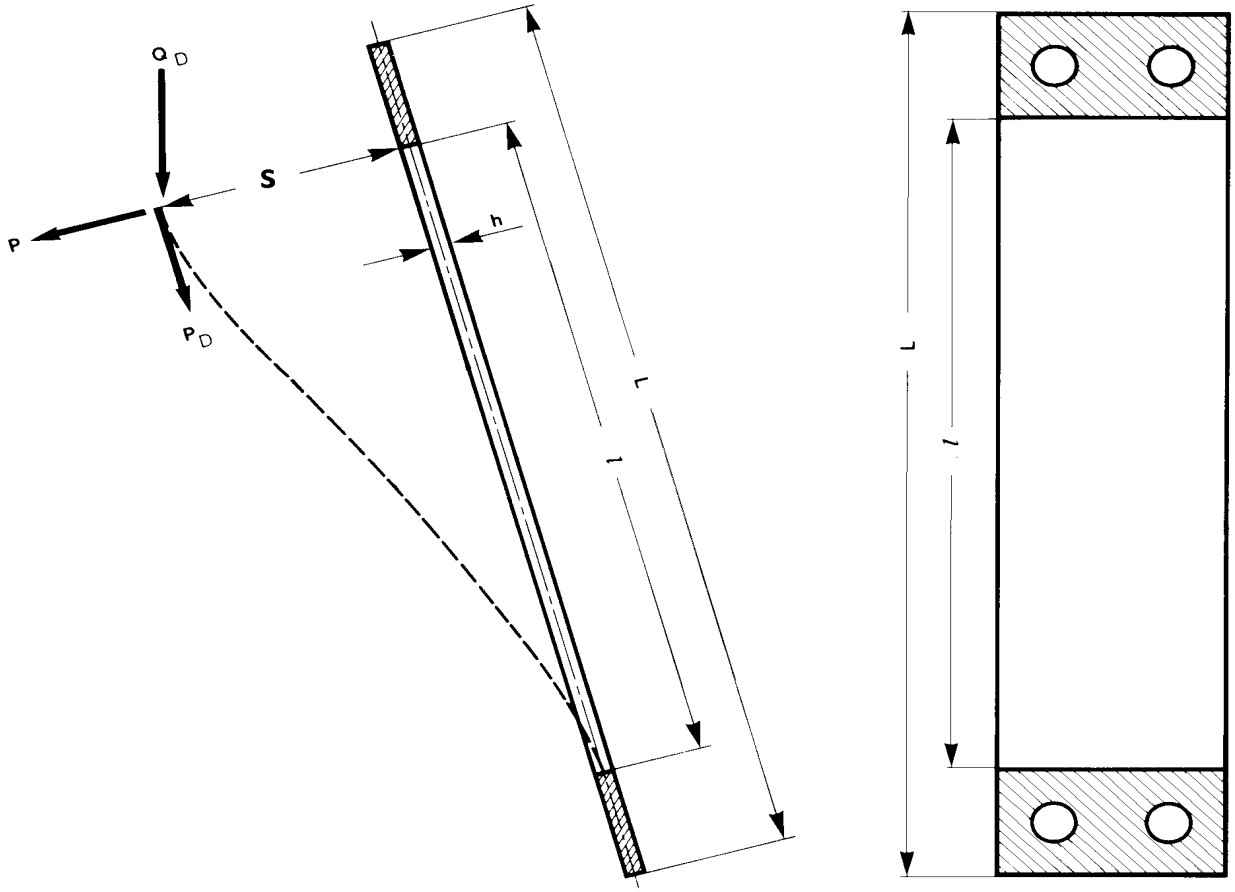
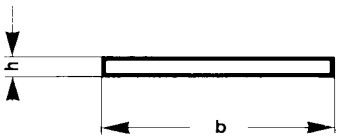
PRAUSE DUROTEC
composite leaf springs and customized parts

# Basic calculation for leaf springs at resonant frequency

Valid for the following products:
**S-Ply® yellow / S-Ply® blue / S-Ply® carbon**




**Variables:**

| | | |
|---|---|---|
| $Q_D$ | (kg) | = vertical weight on spring |
| $P_D$ | (N) | = axial load on spring due to $Q_D$ |
| P | (N) | = force at support required to deflect spring |
| s | (mm) | = maximum deflection (unidirectional) |
| L | (mm) | = total spring length |
| *l* | (mm) | = free spring length |
| h | (mm) | = thickness of spring |
| b | (mm) | = width of spring |
| f | ($sec^{-1}$) | = working frequency |
| $F_N$ | ($sec^{-1}$) | = resonant frequency of the vibrating system |
| E | ($N/mm^2$) | = flexural modulus of the spring material |

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P. J. Prause Durotec GmbH · Dieselstraße 14 · 59823 Arnsberg · Germany
Tel.: +49 (0) 2931- 6540 · Fax: +49 (0) 2931- 6570 · info@prause-durotec.de · **www.prause-durotec.de**