

Selection Procedure for Soft Absorbers

<Selection Procedure>

Item	Details
1 Verification of the operating conditions ↓ ↓ ↓ ↓	<p>Verification of the types of motion: determine if it is a linear motion or a rotating motion, and whether thrust is present or not. Identify the specifications required for the selection.</p> <p>Verification of the colliding object's mass: Determine the maximum mass M (kg) of the colliding object.</p> <p>Verification of the impact rate: Determine the velocity V (m/s) just before it collides with the absorber. If the impact rate is not clear because the colliding object is cylindrical, the impact rate is determined by doubling the average velocity.</p>
2 Calculation of the colliding object's kinetic energy ↓	<p>Based on the equation, calculate the kinetic energy, E^1 $E_1 = \frac{1}{2} \times M \times V^2$</p>
3 Verification of thrust ↓	<p>Verify if thrust F is present, and if so, refer to the sample selection equation to determine the thrust. Based on these, select a tentative soft absorber.</p>
4 Tentative determination of the absorber's stroke ↓	<p>Based on the tentatively selected soft absorber, the tentative stroke St is determined.</p>
5 Calculation of thrusting energy ↓	<p>Determine Energy E^2 due to thrust. $E_2 = F \times St$</p>
6 Calculation of the total energy E and selection of the soft absorber ↓	<p>Determine the total energy E. $E = E_1 + E_2$</p>
7 Checking the maximum absorption energy per minute ↓	<p>Based on the operating cycle C (times/min) and the total energy, determine the amount of energy per minute and confirm that it is within the specifications.</p> <p style="text-align: right;">$E_3 \geq E \times C$</p>
8 Checking the equivalent mass ↓ ↓ ↓	<p>When an impact is accompanied by thrust, always verify the equivalent mass, particularly for low-speed impacts (0.3m/s or slower).</p> <p style="text-align: right;">$Me = \frac{2 \times E}{V^2}$</p> <p style="border: 1px solid black; padding: 2px;">Me must be smaller than the catalogue specifications.</p> <p>Me = M (mass of the colliding object) in horizontal impact without thrust.</p>
9 Checking the operating temperature ↓	<p style="border: 1px solid black; padding: 2px;">Operating temperature must be within an acceptable range.</p>
10 Other	<p>Model selection can also be done on a computer using automatic selection software. Please contact our sales department for inquiries. You can also download information from our homepage. http://www.fujilatex.co.jp</p>