

DAMPENED TWIN FLYWHEEL NEW PATENTED TECHNOLOGY FOR PRODUCTION OF DRIVE SPRINGS

A **flywheel** is a rotating disk used as a "storage" device for [kinetic energy](#). A flywheel is a mechanical device that limits excess mechanical energy by helping to stabilize shaft rotation when an applied torque exerts its [traction power](#).

The dampened twin flywheel, an evolution of the flywheel, is usually used on light diesel and high performance vehicles.

The twin mass flywheel functions to isolate crankshaft torque peaks generated by diesel motors with high compression ratios. Consequently, the power required for speed changes is reduced, as is the fuel consumption.

There is a clutch disk between the internal and external flywheels that permits their reciprocal movement. This device is designed to reduce damage to the transmission when the torque loads exceed the vehicle's transmission ratio.

The clutch disc is the weak point in the system and can wear due to excessive loads of applied motor torque.

The system also has a central bearing that supports the weight between the internal and external flywheels and it is equipped with damping springs that absorb the strokes. Guides contain the springs.



The traditional production process for these spring guides has two phases:

First, the FePo4 material (Standard No. 1.0338 DIN St14) is deformed according to UNI EN 10130:2007 (Cold rolled low carbon steel) and the profile is trimmed, then it undergoes [carbonitriding](#).

Termomacchine's patented technological innovation allows the spring guides to be made of C55 steel (Standard No. 1.0535 DIN C55) according to UNI EN 10132-3:2002 (Cold rolled narrow steel strip for heat treatment) that have already been tempered in a single production phase with significant advantages given from both the lower cost material and the reduction in cycle time.

The resistance to [fatigue fracture](#) remains unchanged.

Patent No. TO 2008A000221

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