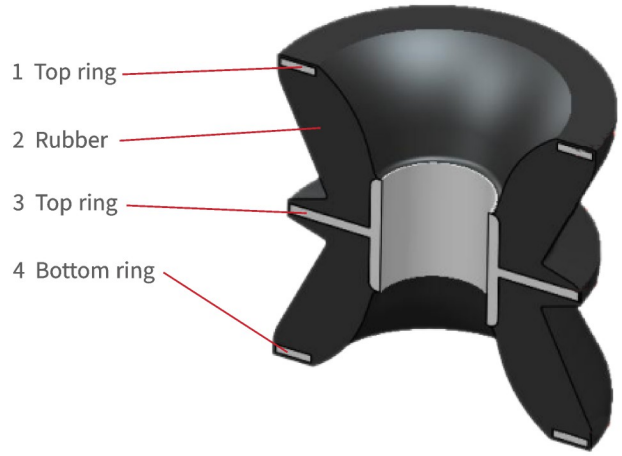
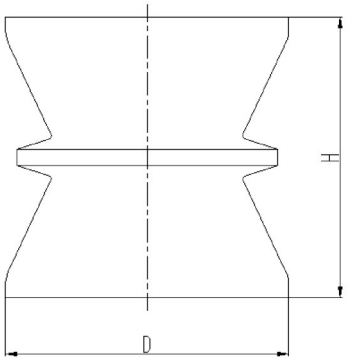
HOURGLASS SPRING

Application of second suspension for tram, monorail, light rail, locomotive, freight etc.

STRUCTURE AND THE FUNCTION ►►►

1. **Top ring** is to be designed according to different interface dimensions from customer.
2. **Rubber** provides the deflection capacity and stiffness in all degrees of freedom. It also provides a certain level of damping. It acquires good creep and fatigue performance by different rubber formula according to application conditions.
3. **Middle ring** is adjusted according to customer' s requirements to acquire a desirable vertical and horizontal stiffness property.
4. **Bottom ring** is to be designed according to different interface dimensions from customer.





MAIN CHARACTERISTIC ►►►

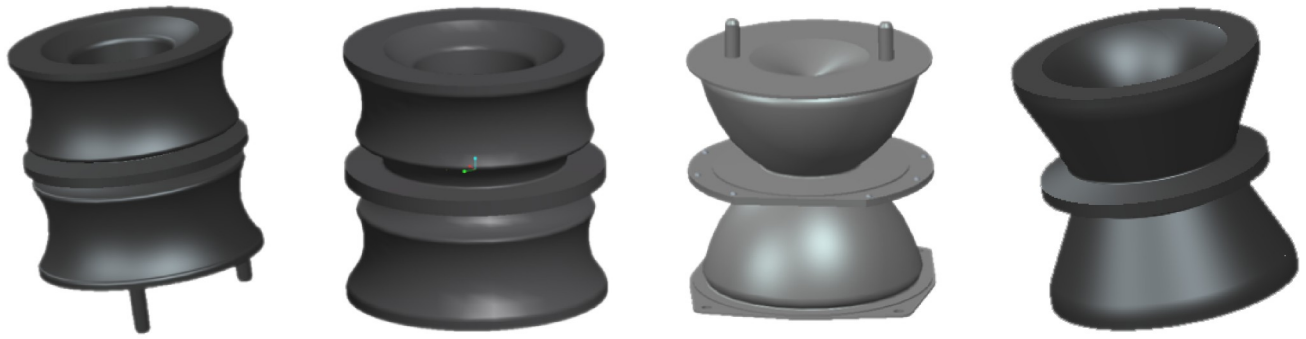
The hourglass spring has a simple structure, light in weight, and a large deflection capacity in both vertical and horizontal planes. The hourglass spring's vertical stiffness curve is progressive which makes the spring soft at light load and stiff at heavy load.

CAPABILITIES ►►►

- Produce all types of hourglass springs;
- Produce products comply with EN45545-2;
- Rapid design and develop new parts according to customer' s requirements;
- Products are serviced in 6 continents of the world;
- Products have been used covered in all kinds of rolling stocks: tram, monorail, light rail, locomotive, freight etc.

HOURGLASS SPRING

TYPICAL HOURGLASS SPRING TYPES ►►►



PLEASE FILL THE TABLE BELOW FOR ANY ENQUIRE ►►►

Train type	☐Intercity; ☐Regional; ☐Suburban;☐Inner city; ☐monorail; ☐other				
Max. speed	km/h		Operation area	Country/city	
Axle load	Ton		Max. horizontal deflection	mm	
Tare	kN		Tare height (H)	mm	
Crush	kN		Diameter of layer spring (D)	mm	
Vertical stiffness	kN/mm		horizontal stiffness at tare	kN/mm	

Product details can be found in website:
http://www.zztmt.com/zztmt/