

# Ball Joint Production and Structure

Guiding you through every twist and turn in the road

The ball joint is a critically important part of every vehicle's suspension system. This vital multi axial-connecting component is a feature of most control arms, stabilizer links, tie rod and tie rod ends. Its purpose is to be the connecting point to the vehicle's steering and suspension system to the road wheels. The spherical ball pin and socket design of the ball joint enables the suspension to travel up and down as the road surface conditions continually change, as the vehicle is driven through the twists and turns of the road. febi ball joints are produced with high quality materials, in accordance to the original equipment standards, for optimum performance and durability. This ensures accurate wheel alignment, eliminating suspension noise and improving chassis handling.

## Casting/housing

The ball joint housing is designed precisely to meet the load and function requirements of each application. This can be as a suspension ball joint - bolted or riveted to the control arm - or where a ball pin is pressed into the ball joint housing and fixed on one side across the geometry of the ball joint. The other side is secured by a retaining ring, or as a built-in ball joint (used in many forged and cast control arms and links).

## Clamping rings

Spring steel clamping rings ensure the security of the rubber boot - supporting the static and dynamic sealing areas of the ball pin.

## Protective rubber boot

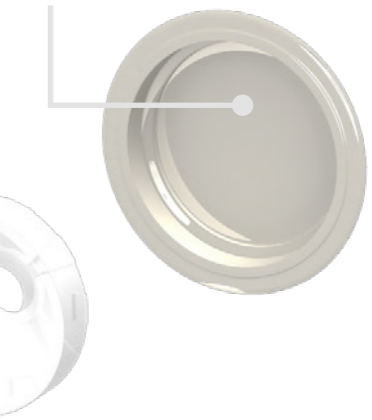
The Chlorophene rubber boot is one of the most important components of a ball joint. The boot ensures that the ball joint assembly is protected against moisture, road debris and is resistant to heat, oil and weathering from the direct effects of sunlight. It is able to seal the joint in every position of the ball pin and at any angle of deflection.

## Ball pin

febi ball pins are manufactured in line with the original equipment specification, meeting the required load demands of each steering and suspension joint. The light alloy steel used has increased wear resistance, surface hardness and service life - through creation of a hardened surface layer while maintaining an unaffected core microstructure. This produces a ball joint which is harder, stronger and safer - resulting in the required strength for the safety of the driver and passenger/s; achieving greater vehicle agility, stability and driving dynamics.

## Steel cap

To finalise the assembly of the ball joint components, the steel cap - which is resistant to impact and corrosion - is sealed in place by a rolling process applied to the edges of the ball joint housing, protecting the parts inside.



## High performance grease

The grease used by febi has been specifically designed for the lubrication of smooth-running ball joints. The semi-synthetic base oil is thickened with polyuria and is free of heavy metals and black solid lubricants. Special additives are used to increase adhesion to steel and plastic components, which improves the dampening effect between the friction bodies.

## Acetal bearing

Polyoxymethylene (also known as acetal, polyacetal or polyformaldehyde) is an engineering thermoplastic used in precision steering and suspension parts, which require high stiffness, low friction and excellent dimensional stability, ensuring smooth axial movement.



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