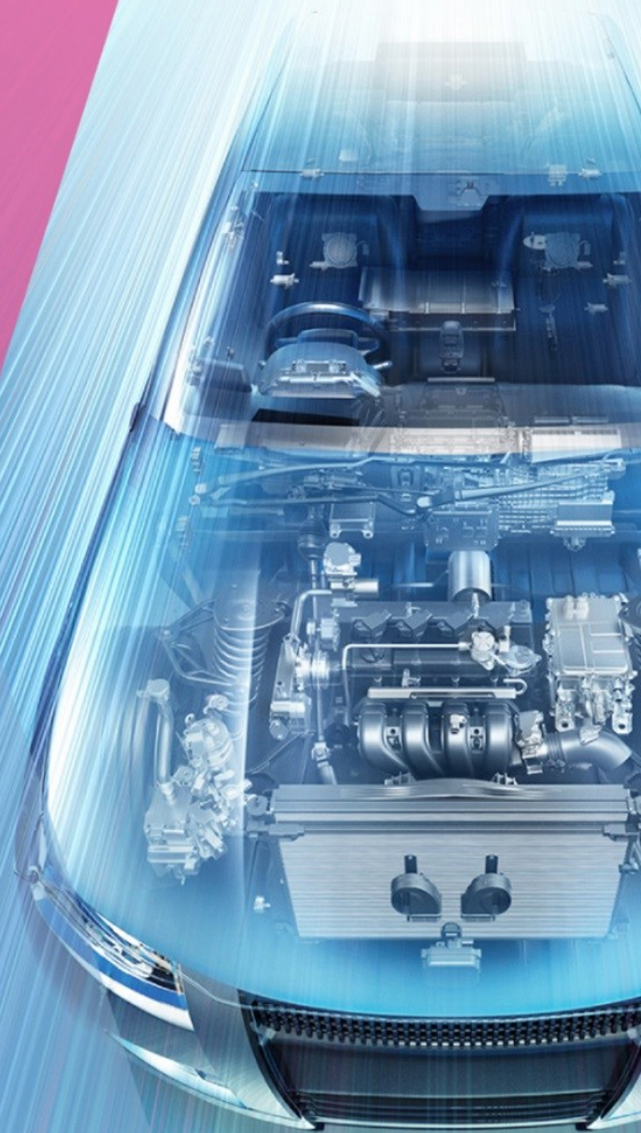


*DENSO*

# **IDENTIFY COUNTERFEIT DENSO SPARK PLUGS**

**DENSO EUROPE B.V**



# Introduction

- Being a high quality premium spark plug producer, DENSO continuously challenged with imitations/counterfeit spark the market.
- This is technical paper guides to how to identify the key differentiation points of counterfeit spark plugs, and how to protect your business.
- **Do not worry**, you do not need a professional/ a mechanic to authenticate the spark plug.

With simple tools like kitchen knife, Spark plug gap measurer, caliper, basic knowledge on spark plug, and this material you can identify the counterfeit products.



# Key factors to check in case of suspicion.

## Steps:

- ✓ Seller Check
- ✓ Visual Check
- ✓ Technical spec check
- ✓ Packing Check

## Recommendation

- To conduct a thorough check, we recommend to place the potential counterfeit and the genuine DENSO Spark Plug Side by side.



# 1. Authenticate seller

- Often, DENSO counterfeit spark plugs are being sold outside DENSO recognized sales channels like:
  - Foreign E-commerce websites
  - Black market
  - Unrecognized dealers
  - Fraudulent websites/sellers
  
- Please be aware of possible malpractice by the sellers. If the price is unexpectedly low, when compared to other sales route. The probability of product being counterfeit is high.



SET(4) SPARK PLUGS OEM DENSO IK20 IRIDIUM FITS TOYOTA HONDA NISSAN  
VOLVO AUDI VW

Brand New

**Counterfeit**



**Find DENSO genuine spark plugs from our distributors by scanning the QR code.**

**Note: DENSO does not accept claims for products purchased outside DENSO recognized sales channel**

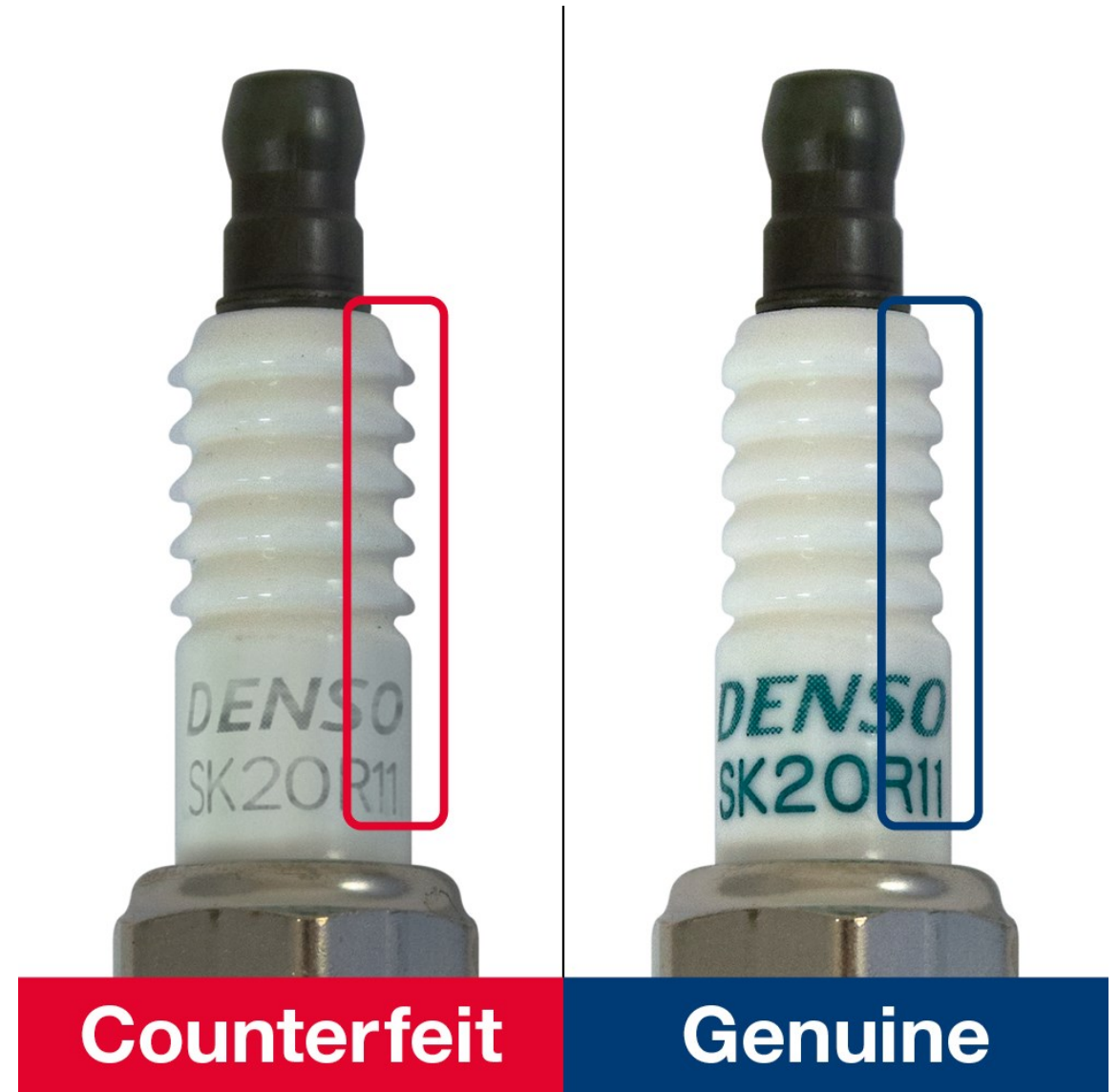
## 2. Visual check

### ❑ Insulator:

- Counterfeit spark plugs have an irregular insulator shape.
- This can cause installation/ connecting to the ignition coil. Because of the misalignment
- Counterfeit spark plugs may have insulator of different ceramics and colour.

### Check:

- Conduct a thorough visual check by comparing with a genuine one.
- Measure the insulator diameter using a calliper





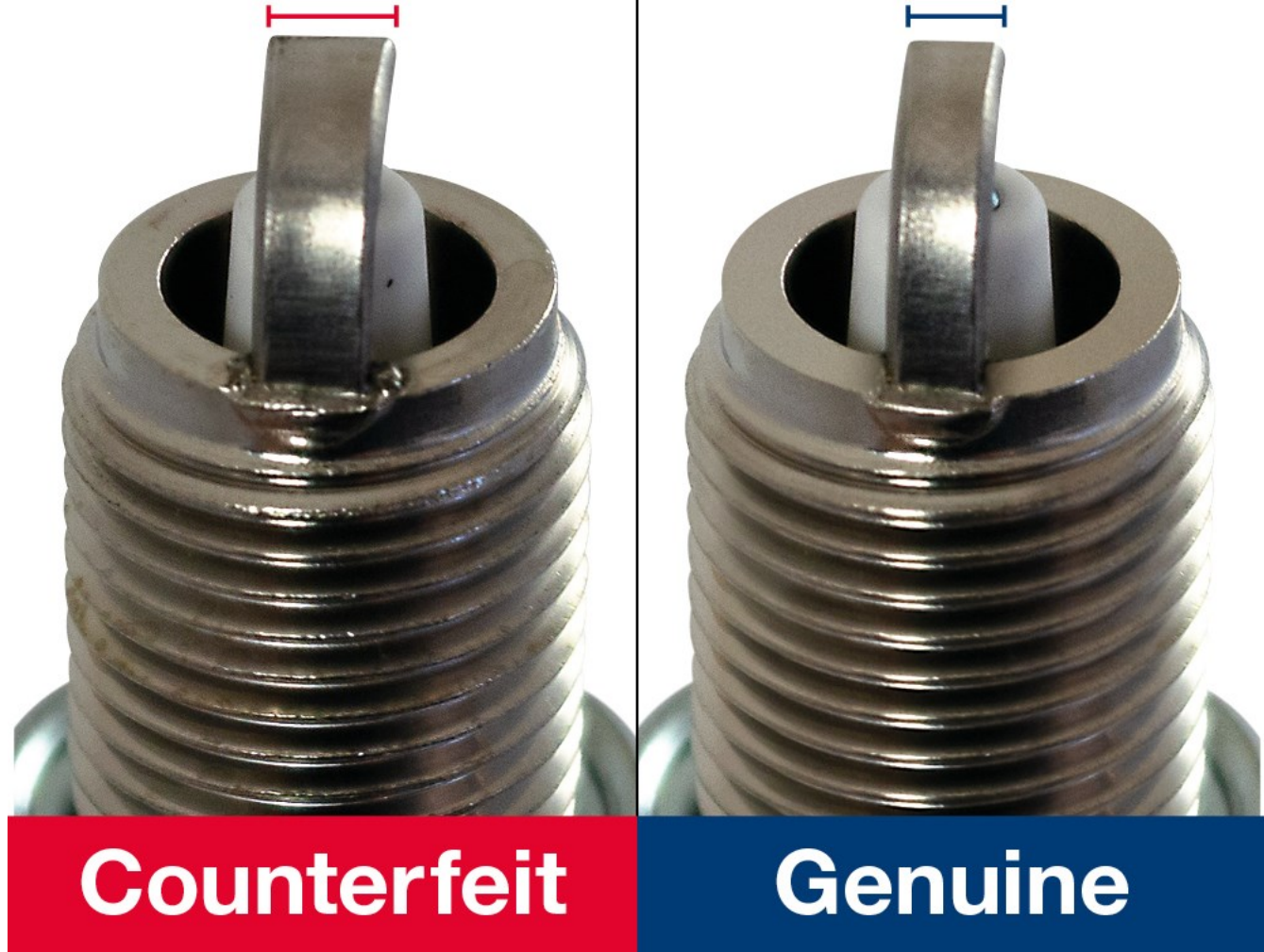
# Visual check

## ❑ Ground Electrode:

- Counterfeits have irregular ground electrode and might not be positioned straight
- The counterfeit products have inconsistency in the width and angle of the ground electrode

### Check:

- Use caliper and compare the width of the ground electrode.
- Check for the welding portion



# Visual check

## ❑ Scratch test

- The Scratch test reveals the true material of the spark plug.
- Counterfeit spark plugs lose the top layer coat. Because they are manufactured with cheap materials or coated with paint.
- Counterfeit spark plug often corrode faster because of low grade materials
- The genuine is not coated and the material composition is well tested to withstand heavy scrutiny, temperatures and conditions.

### Check:

- Scratch test can be performed with a simple pocket knife.
- Pick a spot on the Hexagon and with the pocket knife/sharp object, apply some gentle pressure and scratch on the hexagon part of the a spark plugs

Counterfeit



Genuine



# Visual check

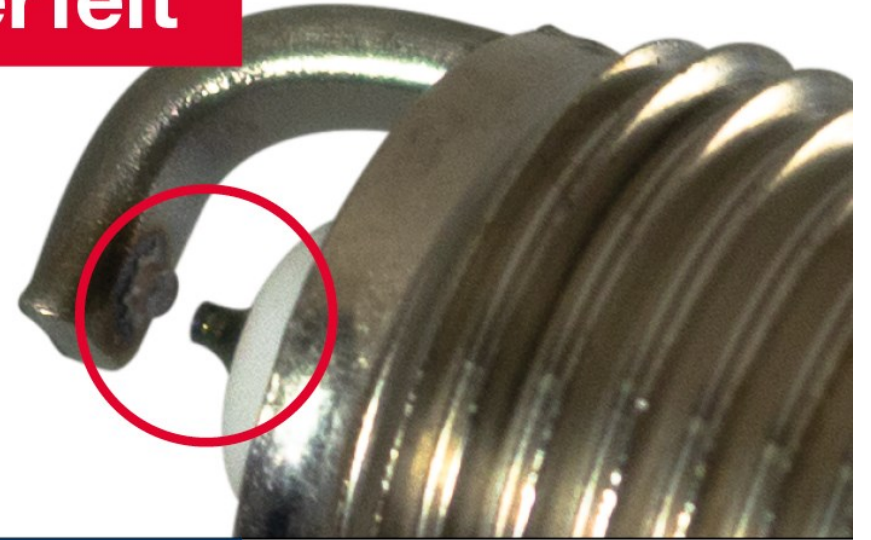
## ❑ Ground Electrode chip

- DENSO spark plugs (specific spec) are equipped with high quality chips.
- For counterfeits, the chip on the ground electrode is either missing or made of cheap copper materials.
- DENSO spark plug has standard and homogeneous shape of the chip on the ground electrode.

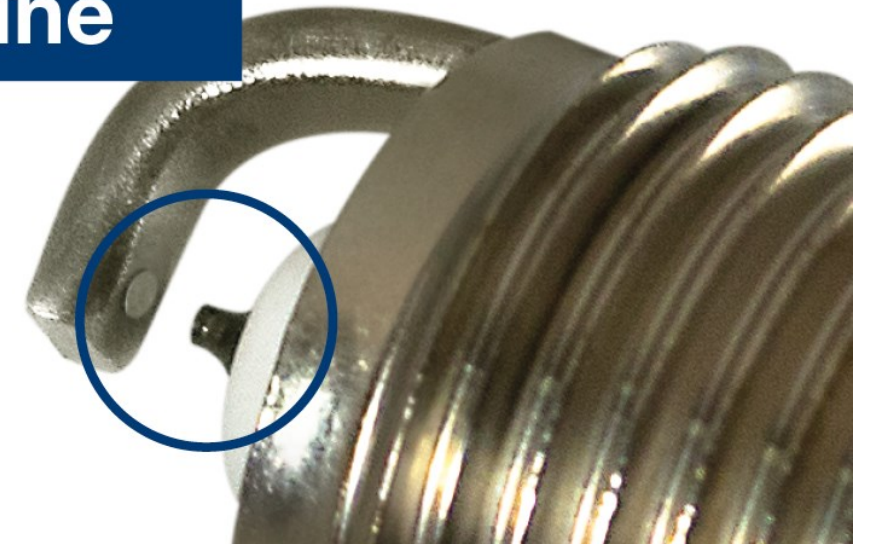
### Check:

- Conduct a thorough visual check by comparing with a genuine one.
- To test this, perform a scratch test on the ground electrode chip.

Counterfeit



Genuine





# Visual check

## ❑ Centre Electrode

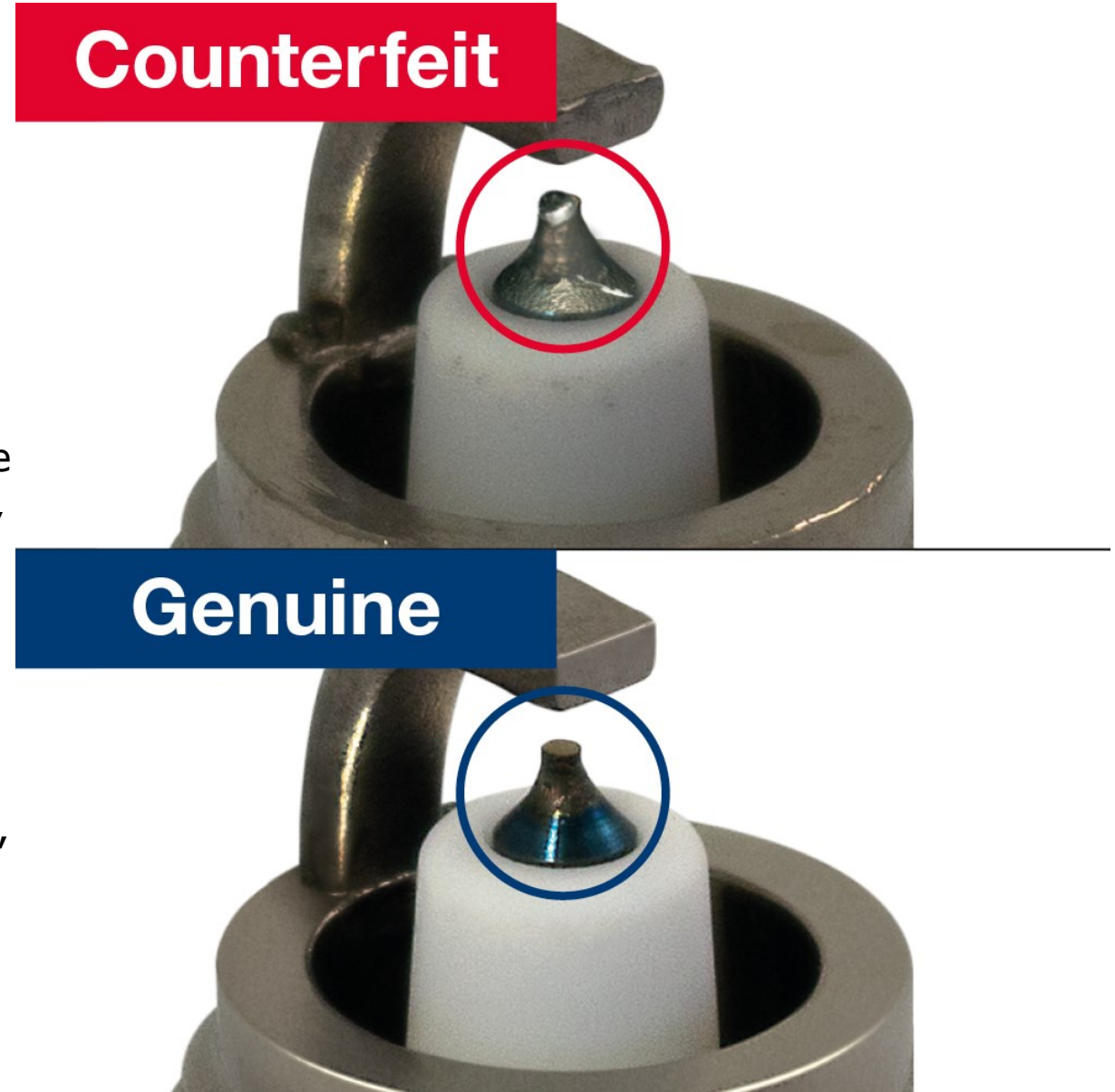
- Welding the central electrode with precious metals is a challenging task and can be only mastered with highly quality material and precision in production capability.
- The differences in the welding methodologies clearly states that the counterfeit products are not made to withstand the high temperatures, vibrations and combustion cycles.
- The welding methodology implemented by counterfeit producers can melt the materials faster. Leading the central electrode (Sometimes including the ceramic insulator) to break off and drop inside the cylinder head, causing damage to the piston and engine.

### Check:

- Conduct a thorough visual check by comparing with a genuine one.

Counterfeit

Genuine



# Visual check

## ❑ DENSO branding

- DENSO branding are precisely embossed to the center of the body.
- Counterfeits lack precision, the Depth of the engraving can be uneven.
- The letters are not positioned in the center
- Spell mistakes or different brand names
- Different fonts style and size
- Unknown production codes

### Check:

- Conduct a thorough visual check

**Counterfeit**



**Genuine**



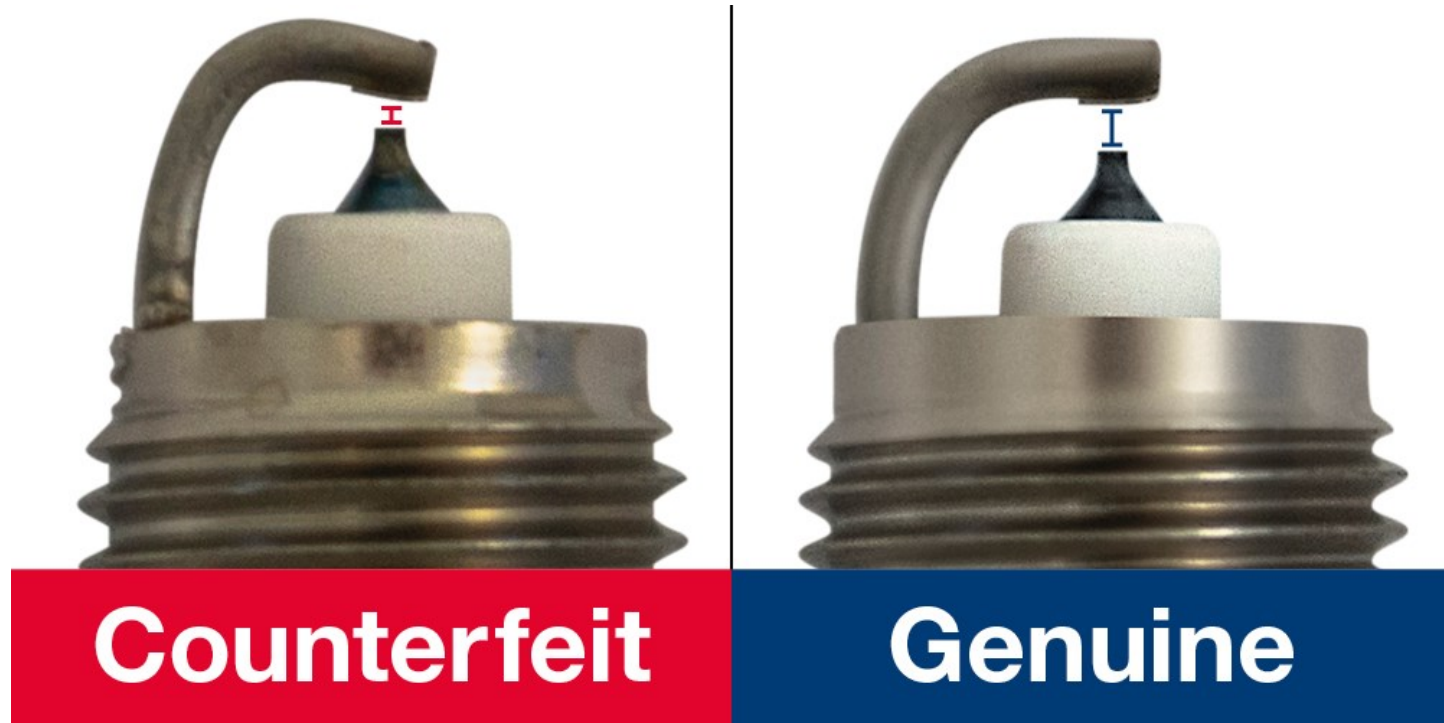
# 3. Technical specifications check

## ❑ GAP Check

- Counterfeit products are prone to have a difference in GAP by 0.1 or 0.2mm difference.
- This difference is out of DENSO specification and proves that the product is a counterfeit
- For official Spark Plug Gap related information, refer to DENSO catalogue

### Check:

- Use a Feeler gauge or Coin Style gapping tool to measure the GAP of the Spark plug





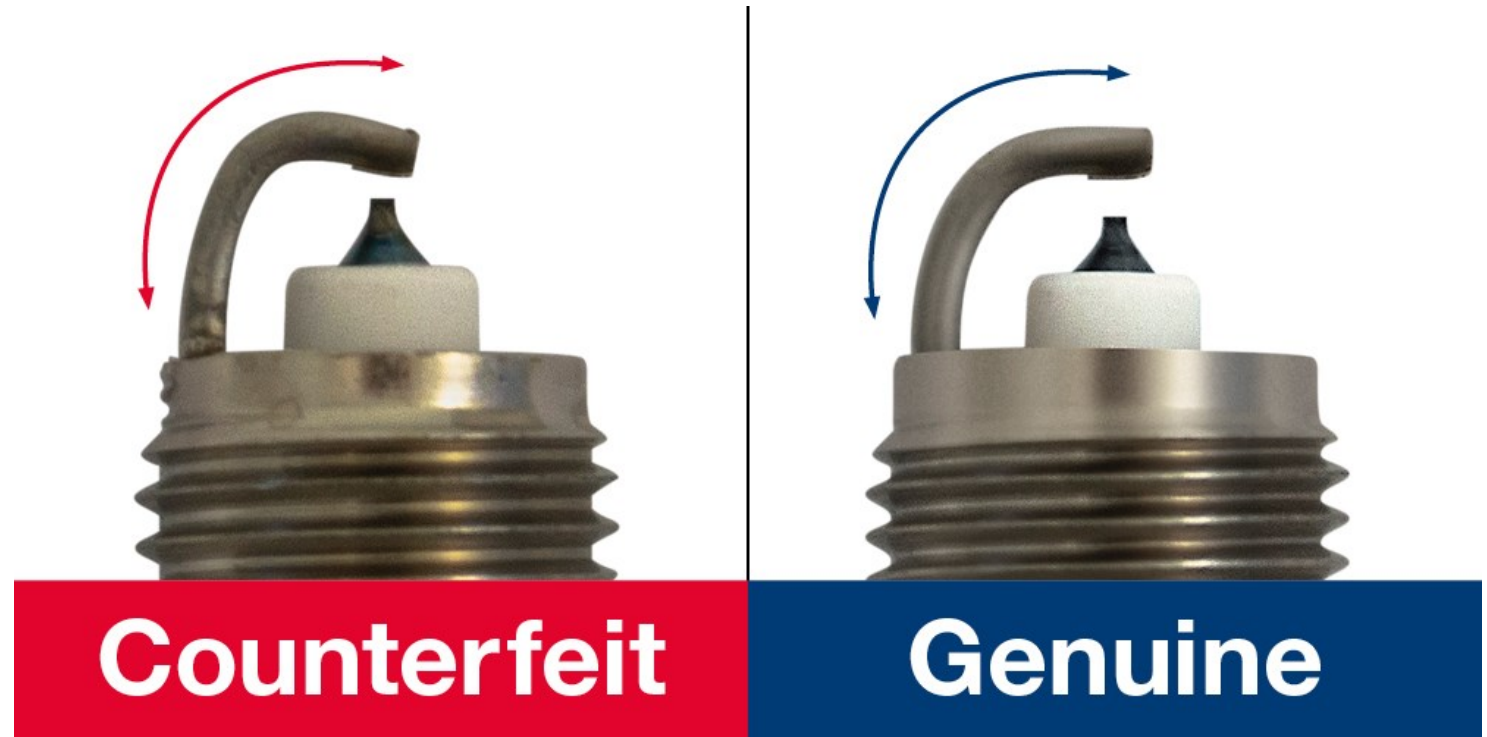
# Technical specifications check

## □ Angle of Ground electrode

- The angle of ground electrode is carefully positioned and manufactured to attain the best spark functionality inside the combustion chamber.
- Any deviations will reduce/increase the Gap distance set by the DENSO.
- The deviations will affect the spark functionality

### Check:

- Conduct a thorough visual check by comparing with a genuine one.





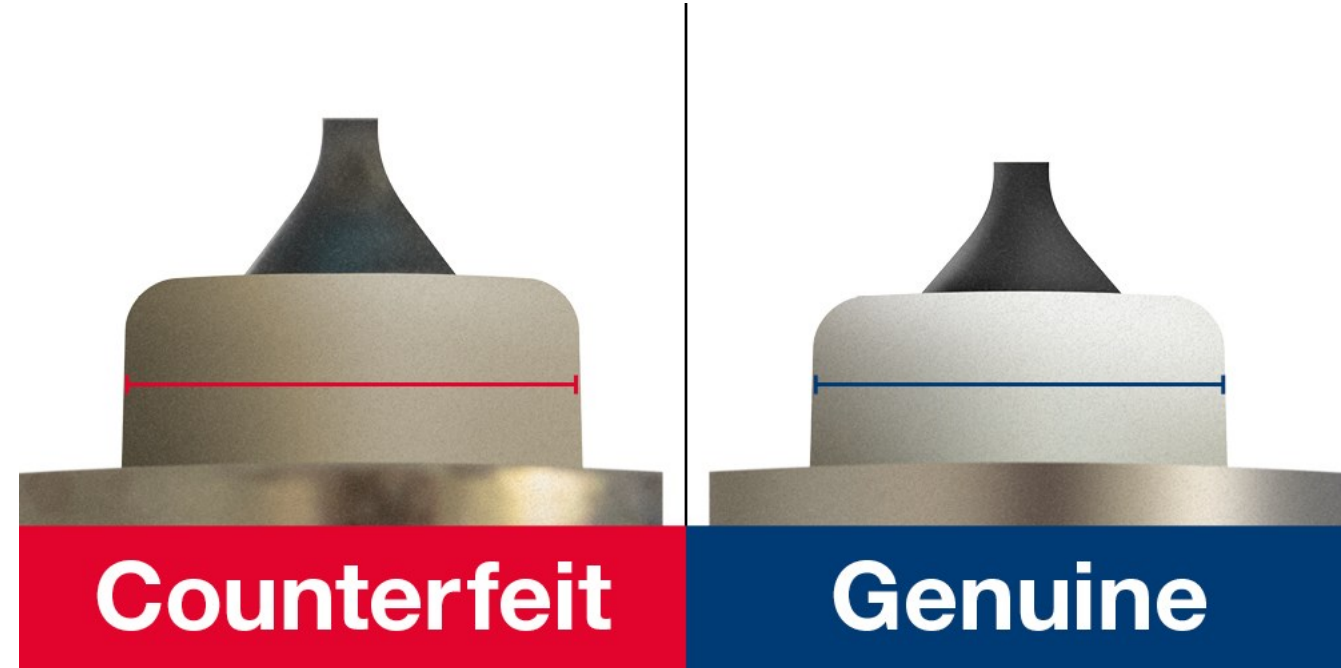
# Technical specifications check

## ❑ Ceramic Diameter

- Counterfeit products are prone to have a difference, either thicker/ thinner ceramic part.
- Pay attention to the look of the ceramic. Fake Ceramic look alike materials, when exposed to hot temperatures melt instantly.
- This difference is out of DENSO specification and proves that the product is a counterfeit

### Check:

- Using a caliper measuring tool, measure the diameter of the ceramic part of DENSO Spark plug.



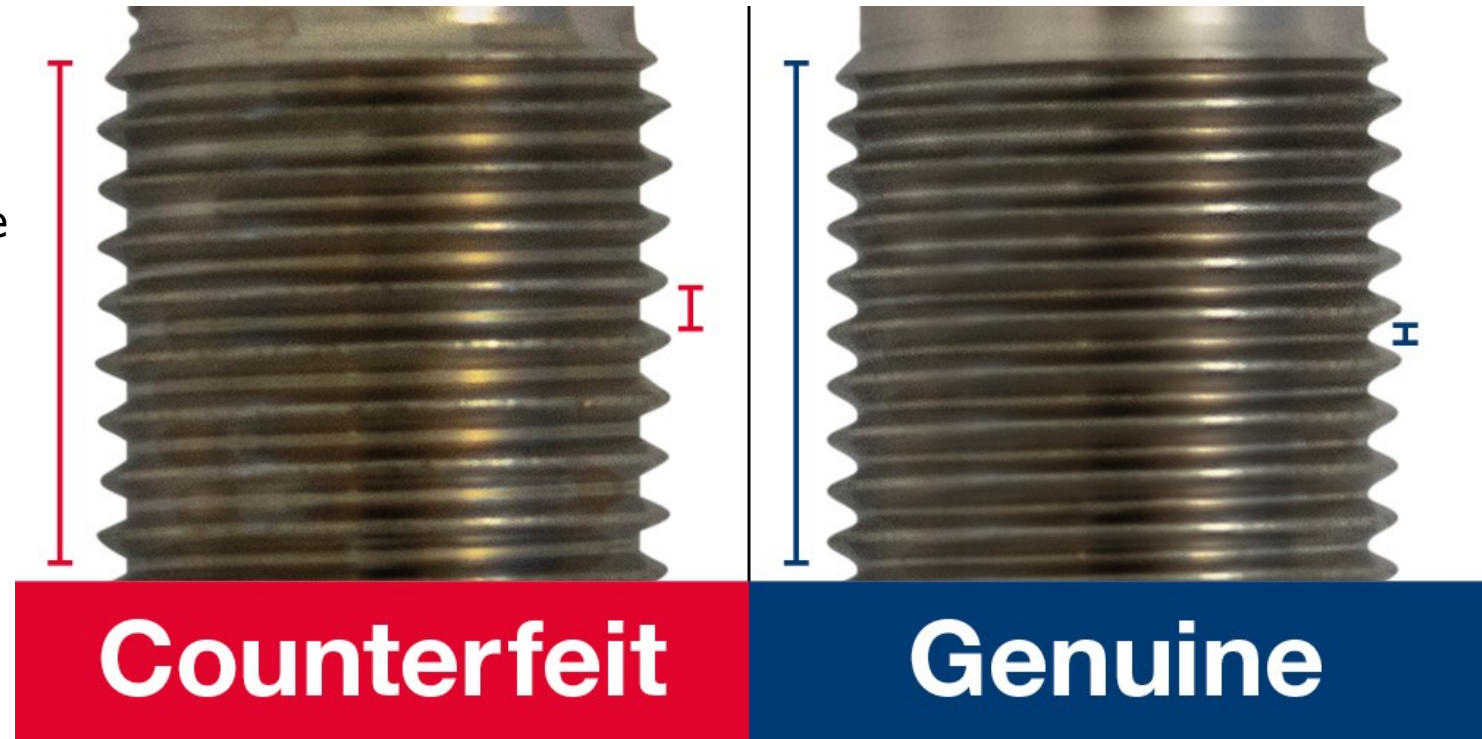
# Technical specifications check

## ❑ Thread Dimensions

- Counterfeit products are prone to have differences in the following
  - Reduced thread size
  - Thread Pitch
- If the difference is out of DENSO and ISO specification, this proves that the product is a counterfeit

### Check:

- Using a caliper (measuring tool), measure the total length of the thread size and over all spark plug length.



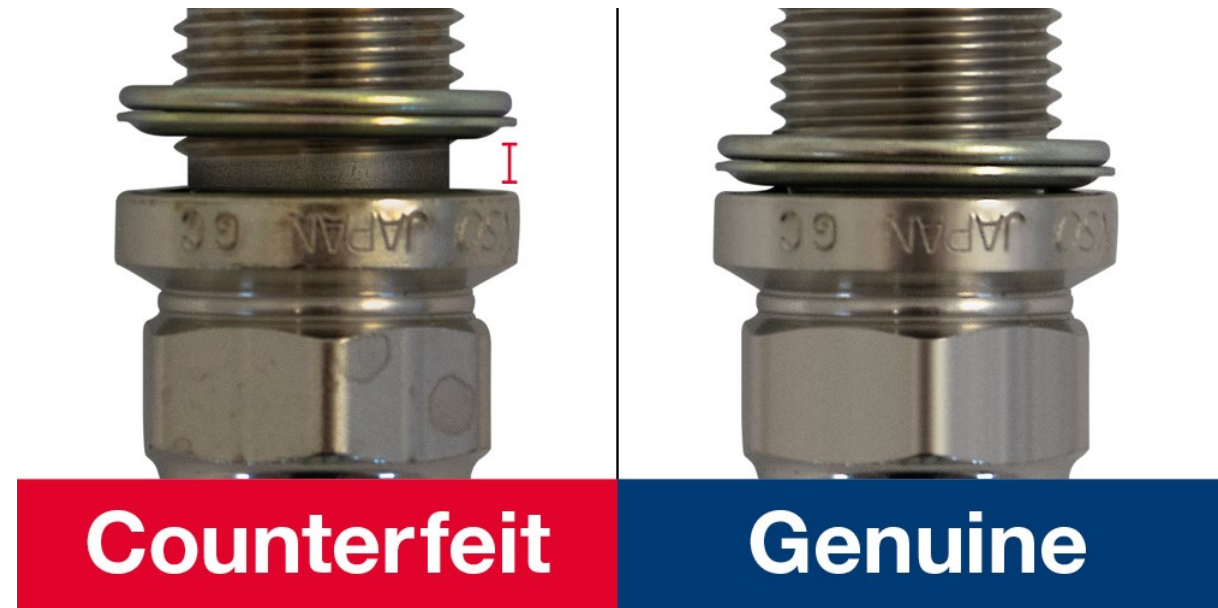
# Technical specifications check

## ❑ Gasket

- DENSO has strict policy for the Gasket gap, as this is crucial for installation torque requirements and spark positioning.
- Counterfeit products might have thicker/thinner gasket. Do not follow ISO requirements
- The diameter, thickness and Gap of Gasket is directly related to installation of the spark Plug.
- Thicker/Thinner gasket may not allow the Spark plug to sit tightly inside the combustion chamber. As the thread line does not immerse completely into the cylinder head. Will cause misalignment with the available threading inside the combustion chamber for the spark plug.

## Check:

- Use a caliper (measuring tool), measure the available Gap between the Gasket and the body.
- Measure the thickness of the Gasket.



## 4. Packaging

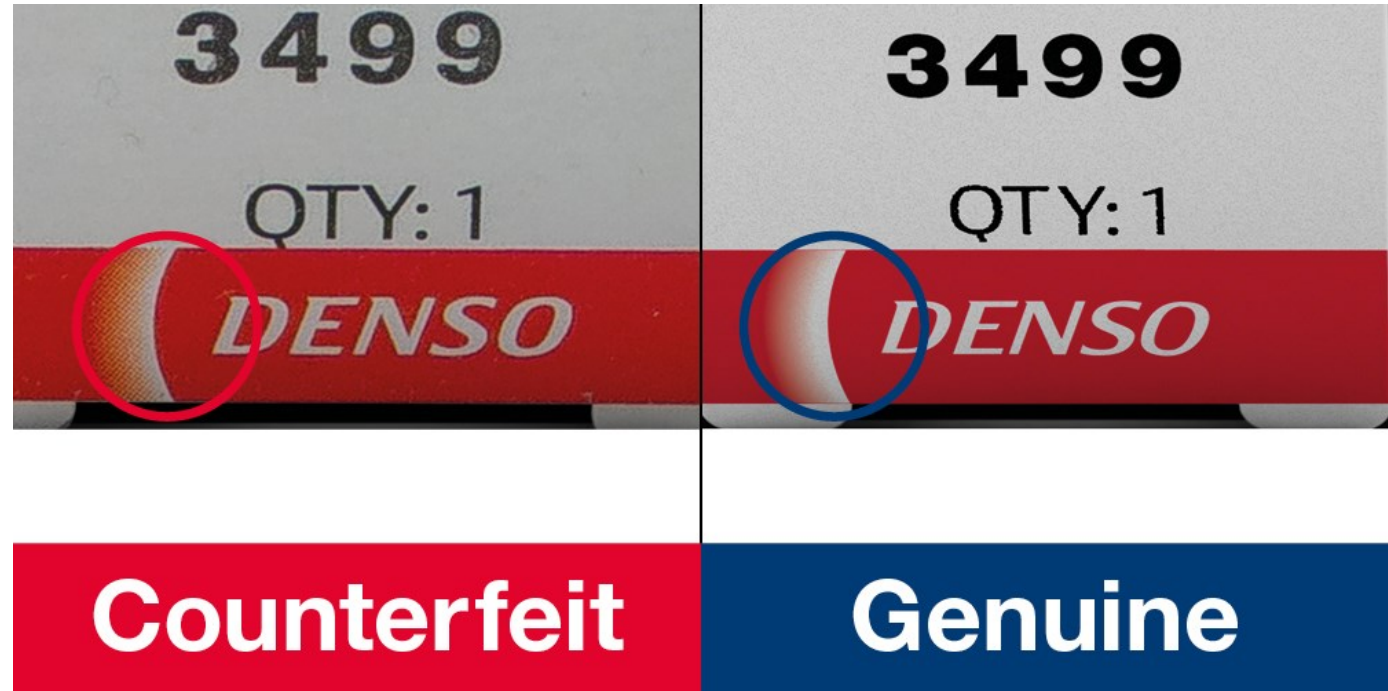
- DENSO Spark Plug comes in variety of box sizes and designs.
- The packing differs from technology to technology and part numbers

### Recommendation:

- Conduct a thorough visual check.

### ❑ DENSO logo position

- The counterfeit products have DENSO Arc positioned slightly toward to the Centre of the Logo
- While the genuine Denso Logo has Arc positioned to the left of the DENSO name.

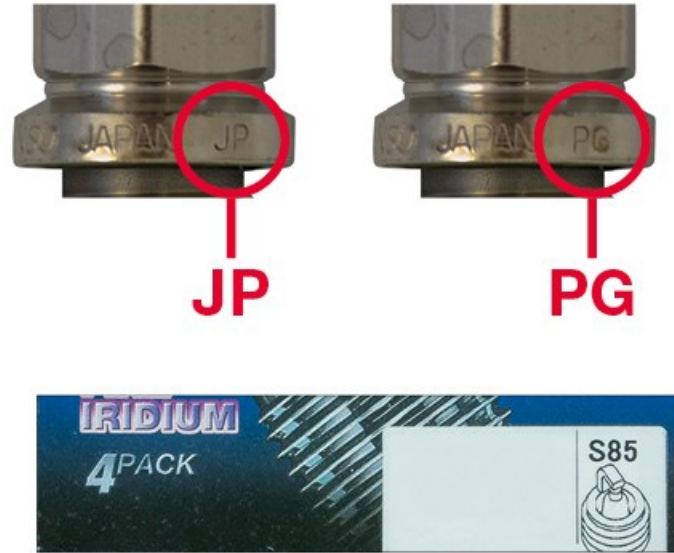




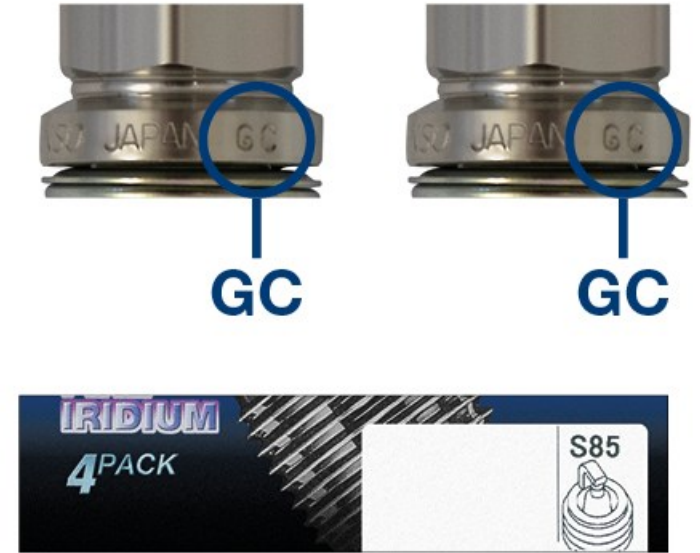
# Packaging

## ❑ Production batch

- Counterfeit producers mimic the DENSO genuine Spark plugs production codes from different production batches and Spark plugs circulating in the market
- The irregular production code packed in a 4 four or 10 pack box is a sign for counterfeit product.



**Counterfeit**



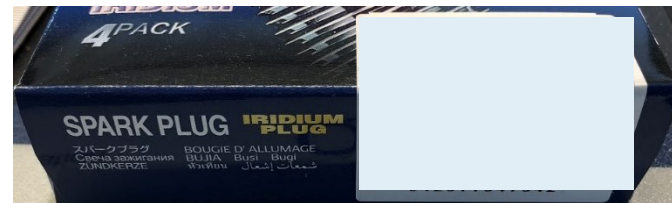
**Genuine**

# Packaging

## ❑ Barcode and Form of the Cutting

- Counterfeit producers mimic the DENSO genuine Spark plugs packing by using the same style of design/art work.
- The noticeable differences are:
  - Barcode
  - Printing and Cardboard quality
  - Colors
  - Unrecognized logos and stickers
  - Form of cutting methods used

### Genuine



### Counterfeit



# Packaging

## ❑ Country of origin

- DENSO spark plugs are manufactured only in the following DENSO manufacturing plants located in
  - DENSO Japan
  - DENSO Indonesia
  - DENSO China
  - DENSO USA
- If you notice any other country of origin on the packing, the product is suspicious to be counterfeit.



Driven by  
**Quality**

