

# Service Information

Mazda Motor Corporation

3-1, Shinchi, Fuchu-cho, Aki-gun  
Hiroshima 730-8670, Japan  
TEL : 81(82)287-5323  
FAX : 81(82)287-5220



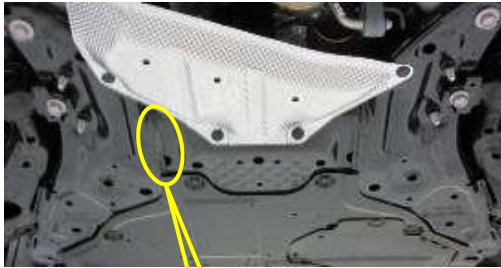
Category <b>R</b>	<b>Technical</b>	Ref. No. E011/12	Page 1 of 2
Coverage <input type="checkbox"/> Distributor only <input checked="" type="checkbox"/> Please inform your dealers		Date Issued June 14, 2012	
Please convey this information to your <input type="checkbox"/> Director <input checked="" type="checkbox"/> General Manager <input checked="" type="checkbox"/> Warranty Dept. <input checked="" type="checkbox"/> Parts Dept. <input checked="" type="checkbox"/> Training Dept. <input checked="" type="checkbox"/> Field Rep.		Date Revised	
Applicable Model Mazda 2 (DE); Mazda 3 (BL); Mazda 5 (CW); Mazda 6 (GH); CX-5 (KE)		Applicable Countries or Specifications Europe	

## Subject: Portions of welding seams at front and/or rear suspension appear as corroded

### DESCRIPTION

Some welding seams at front and/or rear suspension may exhibit an incomplete electrostatic coating (black). Due to the visible reddish color of the welding seam, it gives the impression of already corroded places. This reddish color is no indicator for real corrosion, but happening by chemical conversion of the ingredients in the welding material. Therefore, no repair is necessary.

#### Front cross-member



#### Rear cross-member



## Explanation

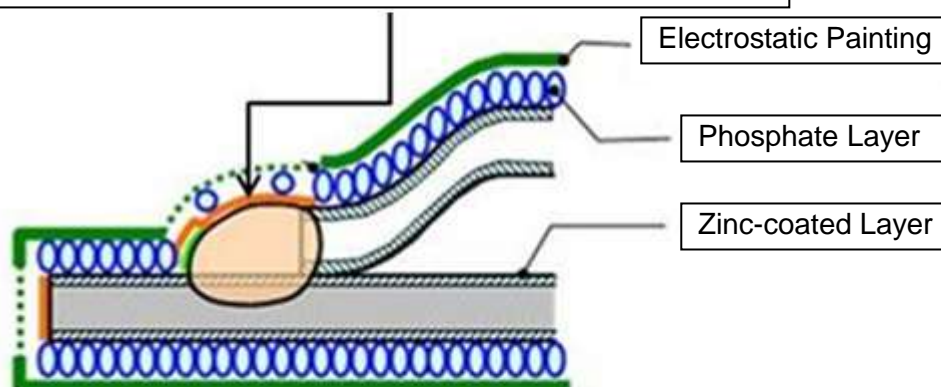
1. The reason why the welding have the reddish color.

In general, welding seams are going to be protected against atmospheric oxygen by a thin oxide film. This oxide film is generated whilst the welding by the ingredients of the welding material. At Mazda's suspension parts, the main component of the oxide film is silicon oxide ( $\text{SiO}_2$ ) with a small amount of oxidized iron ( $\text{Fe}_2\text{O}_3$ ), which is causing the reddish coloration. Although the welding material consists of a small amount of oxidized iron ( $\text{Fe}_2\text{O}_3$ ), it will not corrode any further. This is because the iron oxide is embedded into the crystal lattice of the silicon oxide.

2. The reason why it is difficult for the electrostatic coat to adhere on the welding.

As explained in point 1, welding seams are covered with a thin layer of silicon oxide. Silicon oxide is hard like glass and has a low electrical conductivity. These are a bad conditions for proper electrostatic coating on top and near the bed of the welding seam and explains the patchy appearance of the black coating in areas of welding seams. In areas where the black paint is missing, the welding seam and the areas nearby are protected by the existing silicon oxide layer against further corrosion.

Oxide layer is formed only on top of welding seam and phosphate layer is formed on top and nearby the welding, inhibiting further corrosion even if the black ED-Coat is missing.



Mitsunori Tokunaga  
Manager, Technical Information Gr.  
Technical Service Dept.  
Mazda Motor Corporation  
2C30211411 (MC Internal Use)