

III . Failures, Causes and Countermeasures

10 Electric pitting

	Phenomena, causes and countermeasures	Examples of failures
Phenomena	<ul style="list-style-type: none"> ■ Electric pitting is a phenomena in which the bearing surface is partially melted by sparks generated when electric current enters the bearing and passes through an extremely thin oil film at the rolling contact point. Electric pitting can be classified into pitting or ridge marks, which the rolling contact surface propagates. Depressions like craters can be observed when pitting is magnified, indicating that the surface has been melted by sparks. · Significant electric pitting causes flaking. In addition, since the hardness of the rolling contact surface deteriorates, the surface tends to be easily worn. · If a fluting surface is found by manual inspection, or pitting is observed by normal visual inspection, the bearing cannot be re-used. 	<ul style="list-style-type: none"> ■ Electric pitting on Deep Groove Ball Bearing <i>Fluting on inner ring raceway surface.</i>  (A-6652) ■ Electric pitting on Cylindrical Roller Bearing  (A-6653)
Causes	<p>Bearing surface is partially melted by electric current passing through the bearing.</p>	<ul style="list-style-type: none"> ■ Electric pitting on Cylindrical Roller Bearing inner ring  (A-5180) ■ Fluting on Cylindrical Roller Bearing inner ring  (A-6651)
Countermeasures	<ul style="list-style-type: none"> a) Improvement of grounding or improvement of grounding maintenance. b) Provision of insulation for bearings or for the section near bearings. 	<ul style="list-style-type: none"> ■ Fluting on Spherical Roller Rolling surface  (A-6408, 6650)