NPL Survey of Commonly Reported Printed Board Defects

National Physical Laboratory (NPL) Electronics Interconnect Team is creating a Defect Database as part of their continuing support to the electronics industry. There is a strong belief that many of the component, printed circuit board, assembly, and solder joint failures are often common to many parts of the industry worldwide. Further details on the database and how it will work are covered in the attached document. To further assist our project and aid a better understanding of industry problems from a supplier's prospective NPL are circulating surveys on components, printed boards, assembly and materials to different groups to establish the most common problems experienced or reported. The results of the survey will be published and sent to all the companies providing feedback to this project. No specific company responding will named in the published survey.

In this survey a PCB is defined as a single, double sided, multilayer, rigid or flexible used in an electronic assembly.

Our company is a (Please tick one only)

Printed circuit board manufacturer ☐

Printed circuit board distributor/broker ☐

Please indicate as a percentage which type of circuits you produce or supply to customers

Single side non plated through hole ☐ %

Double sided plated through hole ☐ %

Multilayer ☐

Flexible & Flex rigid ☐ %

Please indicate as a percentage your customer sectors

Consumer/Commercial ☐ %

Telecommunications/ ☐ %

Automotive ☐ %

Military/Aerospace ☐ %

Medical ☐ %

Please indicate in order the most common perceived customer issues raised
(Place in order 1 – 9 with 1 being the most common and 9 being the least common)

PCB solderability ☐

Mechanical damage or dimensional errors ☐

Delamination of circuit boards ☐

Solder mask adhesion failures ☐

Solder joint failure on boards ☐

Impedance error ☐

Contamination corrosion failure ☐

Electrical circuit failures ☐

Cosmetic faults ☐

What information do customers most often request relating to RoHS & lead-free?
(Place in order 1 – 6 with 1 being the most common and 6 being the least common)

Compatibility of laminates ☐

Selection of solder finishes ☐

Compatibility of solder mask ☐

RoHS compliance certification ☐

Requests on the need for baking ☐

No specific requests made ☐

What are your customer's most common changes for RoHS/Lead-free assembly?
(Place in order 1 – 6 with 1 being the most common and 6 being the least common)

PCB solderable finish ☐

Basic laminate material/build ☐

Solder mask coating specification ☐

Copper plating thickness ☐

Changing PCB layout rules ☐

Please outline any other failures not highlighted that you would like the NPL Team to be aware of

Many thanks for taking the time to complete and return this survey. We will send you a copy of the results of the surveys when they are completed. Providing your details allows us to send you a copy of the survey results. NPL will only use the details provided to forward you a copy of the surveys and the Defect Database when they are complete.

Name: _____ Company: _____

Address: _____

Town/City: _____County/State: _____Post/ZIP Code: _____

Country: _____ Email: _____ @ _____

Telephone: _____Fax: _____

You may return your completed survey by email, fax or post.

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