



## Technically Speaking

# Welcome!

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*"When you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind. It may be the beginning of knowledge, but you have scarcely, in your thoughts, advanced to the stage of science."*

*Lord Kelvin*

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Welcome to the first issue of the RTS-Rexnord Technical Services e-mail newsletter. This will be a quarterly publication with issues of interest to companies who need to have mechanical and material engineering tests performed, either on a regular basis or from time to time. We hope you find our first article, "**Getting the Most For Your Testing Dollars,**" useful.

We are an independent division of Rexnord Industries, Inc., named RTS - Rexnord Technical Services. Although we are young as an organization, we are nearly 40 years old as a technical group. In fact, our staff of 40 engineers, technicians, and support personnel average 16 years of industrial experience per person.

In areas that might interest you, we routinely perform vibration and sound analysis, we are experts in all types of material and failure analysis, we perform a wide range of structural analysis using both finite element analysis/solids modeling and analytical calculations, and we can fatigue test components and products in their full scale state.

### **Getting the most for your testing dollars.**

The biggest mistake made by companies who suddenly find themselves in need of testing services is in the lack of an ability to define the scope of work. R&D efforts present the greatest challenge in the testing environment, and if not carefully defined, can result in costly false starts or dead ends. A well defined scope saves time and improves the accuracy of cost estimates.

Before contacting the testing laboratory, the person responsible for getting the testing done should decide the purpose of the test. It helps to put things in writing because it forces the individual to answer the obvious questions. Here is a short list of questions, but by no means all of them:

1. How many samples need to be tested? Statistics have to be taken into consideration when performing repetitive tests, although sometimes the cost of obtaining large expensive samples prohibits a good statistical sampling.
2. Define clearly what constitutes a failure. It may be that the sample needs to survive a predetermined number of cycles, or undergo a complete failure in a particular location.

3. Determine when the testing is to be terminated. It helps to have a specific set of criteria, even if a failure does not occur.
4. If there are consensus specifications such as ASTM, SAE, Military standards, and others, be sure to read these and identify which methods and procedures are to be used. Some of the specifications have multiple methods; others do not precisely specify some limits and leave these to the discretion of the party requesting the tests.
5. If special fixtures need to be built, make sure that the laboratory can provide the expertise needed to build them. If you are having them built, consult with the laboratory to make sure they interface to the available testing equipment. In general, you will be better off letting the laboratory build the fixtures. If fixtures have to be repaired or rebuilt, any savings realized by building them yourself will be consumed.

These are some of the obvious things to look out for when preparing for testing services. The best thing to do is assign a single point of contact to discuss these issues with a professional from the testing laboratory.

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**Contact us today for a tour of our facility!**

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