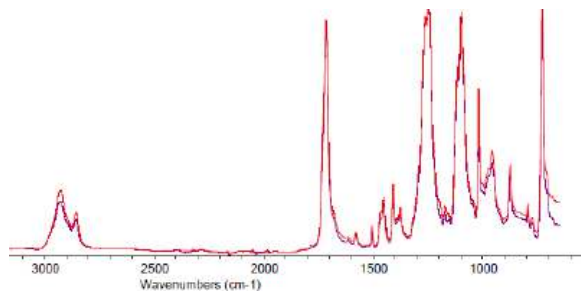


Reverse Engineering Medical Devices

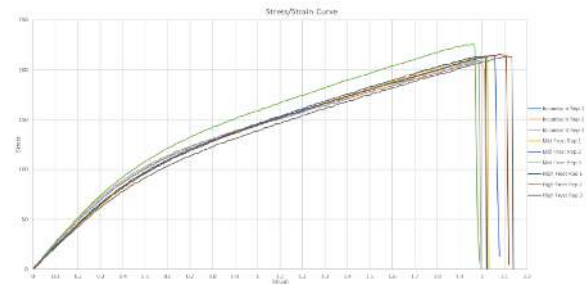
In most cases, specifications, prints, and raw materials are provided to the processor in order to begin production of a new part. Or the customer and manufacturer go into an R&D project together to develop a new part. However, there are circumstances when a request is made to develop a part that already exists with very little to no information. So begins the reverse engineering trials to determine the material properties, mechanical properties and finding a material that is right for the regulations in the specific industry.

Teel Analytical Laboratories tackles these types of requests on a routine basis. Using techniques such as Fourier Transform Infrared Spectroscopy (FTIR) and Differential Scanning Calorimetry (DSC), the material can be identified.

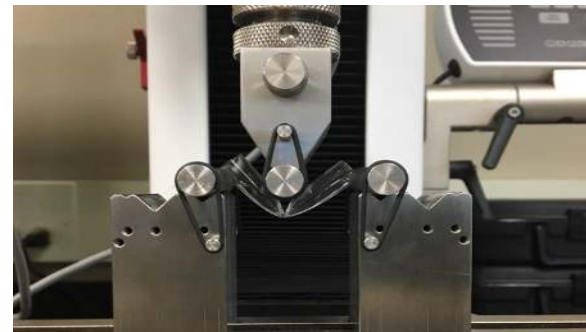


The combination of these two techniques not only identifies both the base material and grade, but also any copolymers or additives present that would make a significant difference in final product function. Upon completion of these evaluations, other testing is completed to further identify properties unique to the particular

resin such as density and melt flow rate. These are all searchable characteristics that narrow the exact material being targeted.



If possible, mechanical properties such as tensile or flexural strength are typically key to replicating the part of interest. Other unique mechanical tests can be developed using the labs versatile force analyzer. Some of the other tests conducted include compression, coefficient of friction, tearing and peel. Additionally, the lab has multiple micro tensile bar punches for smaller parts.



Lastly, regarding medical devices, the need to comply with certain regulations is always important and our testing and material identification always take those needs into account.

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