

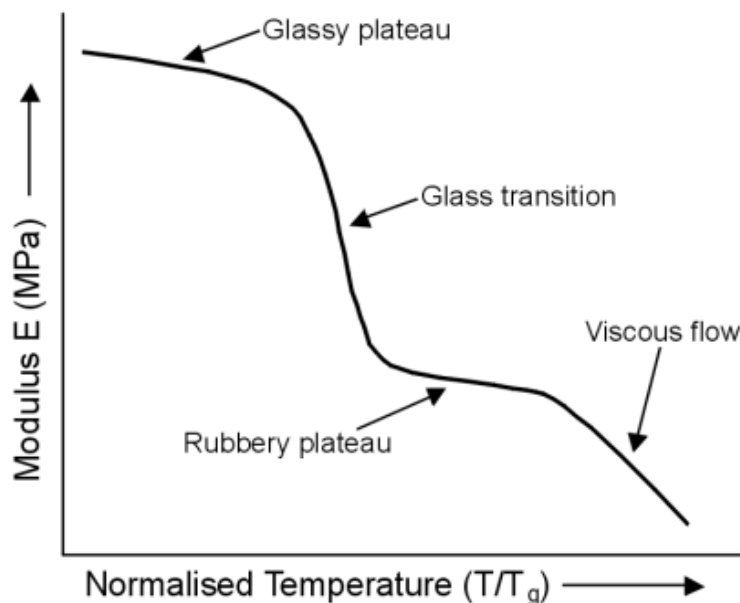


Glass Transition

Not all polymers are the same when it comes to the value Glass transition. Glass Transition (T_g) is the temperature at which a polymer changes state from a strong, firm, yet flexible material to either a fragile, brittle, inelastic material or even a very loose, weak and overly fluid material that will fail in the application of soil stabilization, dust control as well as other applications requiring strength and flexibility.

Our products are composed of co-monomers locked in a polymerized chain designed to meet our specified T_g requirements. From years of laboratory and real life testing, we have identified specific T_g values that keep the amorphous polymers in a resilient elastic state for any specified application. Our targeted T_g value offers the customer high quality polymers which have extremely good mechanical properties within the structure holding the soil or polymer film together. These high mechanical properties within the amorphous regions of our cured polymer products allow the polymer chains to react to pressure and compression without failure. With the targeted T_g that we build into our polymers, the risk of fatigue failure is well minimized. This is due to the fact that our products are designed to stay in the firm, flexible state as required by any given application.

As previously noted, we have determined the best T_g range for stabilization and dust control via years of laboratory and real life testing. Yet, if a customer would like to have an adjusted T_g we are happy to work with you on that as well.





As a buyer you must be aware of the fact that there are many polymer products used in the consumer market today that have innumerable T_g values. Some of these types of polymers are designed to become hard and inelastic once cured, the exact opposite required in stabilization and dust control applications, while others are designed to remain liquid and loose. Some examples would be floor polish, paints, makeup, conditioners and other liquid polymers that dry either too hard or way too soft for your needs. Many of these products are required to have exact standards met and confirmed during production. If these products do not meet the standards set by the end purchaser, they are discarded by the manufacture and sold on the open market as reject material. These reject materials with erratic T_g values are then purchased by many of the dust control and soil stabilization companies you will find in the market today (**not us**). Most of the time these companies don't know and really don't care what type of reject material they are buying, all they know is it is cheap.

This leads too many problems for the end user, **YOU**. First you don't know what you are getting with regards to VOC's, free monomers, unpredictable T_g values, incomplete reactions, etc... But namely with the T_g values you will not know the effects of this until the product has had time to cure. Once the product is in the ground and the water has evaporated out, the polymers will act mechanically according to their T_g value. If you purchased your product from a blender that is buying whatever is in the reject tank of any given plant, you will have no idea what you have. If you unknowingly purchase a product, that has inappropriate T_g values or has been mixed with a low or high T_g value products, for any dust control or stabilization project, it will most likely fail.

The glass transition value of polymers used for dust control and soil stabilization, are extremely critical to the outcome of your project. Let us assure you that the products you purchase from our company are of the highest quality with the sole objective of creating only the finest polymers available. Be it consistent particle sizes, targeted T_g values or high molecular weight, we can assure you that you will always get the very best.