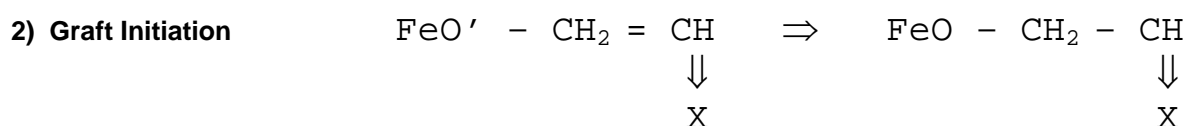
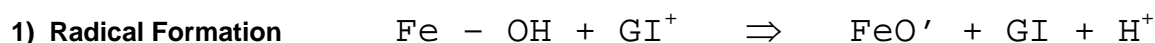


## TegaBond™ Protective Coatings for Steel Substrates

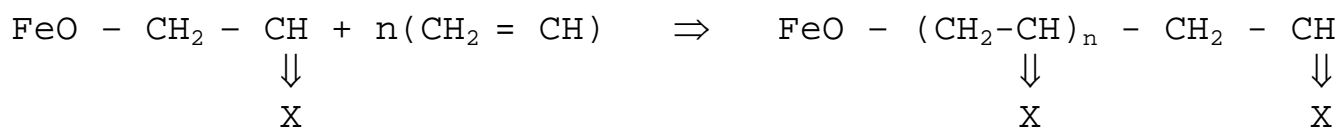
TegaBond™ is a unique, polymeric protective coating for steel substrates imparting attributes including resistance to corrosion, abrasion, impact, salt solutions of high and low pH (both in liquid as well as in vapor state), atmospheric gases including hydrogen sulfide, carbon dioxide, nitrous oxide and others (one percent by volume) under relative humidity of 98%, and ambient temperatures and pressures. TegaBond™ was developed via chemical grafting technology involving the use of monomers, prepolymers, and catalyst and graft initiator systems. The monomers are polyfunctional and, when applied to a steel substrate, allow graft polymerization to form a coating *covalently bonded* to the substrate surface thereby effecting strong, permanent adhesion. The selected monomers and prepolymers inhibit vapor-gas transmission and consequently act as a barrier protecting the substrate surface from moisture, oxygen and other corrosive agents.

### Chemical Grafting as Applied to Carbon Steel

The chemical grafting is carried out via the abstraction of hydrogen atoms from the substrate molecules with the graft initiator ("GI") to form free radicals that react with monomer ("X"), by which graft polymerization commences. The series of reaction steps involved in the graft polymerization of the steel substrate follows:



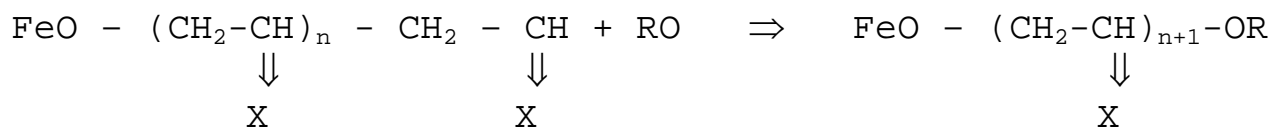
3) Propagation



4) Regeneration of the Graft Initiator and Free Radical



5) Termination



A Substrate Inc. Tega-Product

Distributed by:

**Qovalent Corporation**

1030 Boot Road • P.O. Box 417 • Downingtown, PA 19335  
(610) 269-3075 • Fax: (610) 269-3129 • E-Mail: [service@qovalent.com](mailto:service@qovalent.com)