

# Durability of Industrial Composites

Antonio Carvalho Filho

This book guides readers on predicting the durability of any laminate in any chemical environment subjected to any loading--cyclic, static, or a combination thereof. The focus is on long-term in-service durability and the book provides quantitative answers to all durability issues of composite materials in industrial service.

## KEY FEATURES

- Provides a mathematical model to accurately compute all total stresses/strains in embedded plies of any circular cylindrical laminate
- Identifies eight modes of long-term failure and develops quantitative models to predict the laminate durability in each case
- Introduces an easy equation to compute laminate durability, and calculates the residual life of equipment that has been aged in chemical service
- Presents a complete solution to the strain-corrosion failure of underground sanitation pipes
- Discusses the effect of environmental conditions and resin toughness on the load-dependent durability
- Dismisses the old durability parameters (HDB,  $S_b$  and  $S_c$ ) and replaces them with new failure threshold parameters
- Contains several numerical examples to illustrate the concepts

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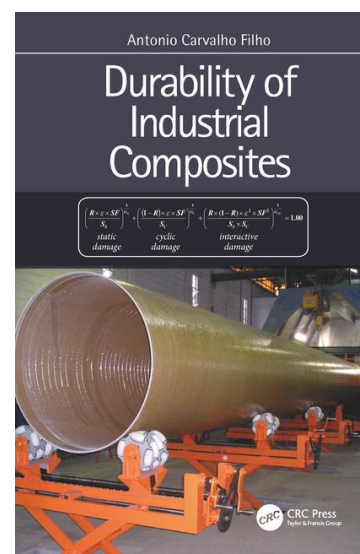
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