DAMAGE MECHANISM LIBRARY

BECHT*CONNECT

Knowledge-on-Demand Network

DOCUMENT SUMMARY

At Becht, we specialize in delivering top-tier documentation solutions that streamline your engineering processes and enhance operational efficiency. Our damage mechanisms library, aligned with API 571 recommended practice, is designed to provide your team with the insights and tools they need to effectively manage risk and ensure the reliability of your equipment.

WHY CHOOSE BECHT'S DAMAGE MECHANISM LIBRARY?

- 1. **Risk Reduction**: Helps you assess inspection effectiveness, reducing the probability of unplanned equipment failure and associated risks. This proactive approach assists with improving the safety and longevity of your operations.
- 2. **Proven Methodology**: Aligned with API RP580 and RP581, providing a solid foundation for your risk assessments and inspection planning. Whether your team prefers to work digitally or with spreadsheets, our documents offer the flexibility to suit your operational needs.
- 3. **Expertly Developed**: Leveraging the collective experience of former owner-operators, our practices reflect industry best practices and insights. Our documentation not only meets industry standards but also adds significant value through our unique insights and expertise.
- 4. **Enhanced Competency**: Serves as a valuable training resource for engineers, offering detailed guidelines to ensure they focus on the most critical key performance indicators (KPIs). This structured approach accelerates the onboarding process and enhances overall competency.
- 5. **Comprehensive References**: Each document includes extensive references for further study, enabling your team to delve deeper into specific issues and stay informed about the latest industry developments. This feature supports continuous learning and improvement within your organization.





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02	Wet H2S Damage (Blistering/HIC/SOHIC/SSC)	27	Thermal Shock	52	Liquid Metal Embrittlement (LME)
03	Creep / Stress Rupture	28	Cavitation	53	Galvanic Corrosion
04	High temp H2/H2S Corrosion	29	Graphitic Corrosion	54	Mechanical Fatigue
05	Polythionic Acid Cracking	30	Short term Overheating - Stress Rupture	55	Nitriding
06	Naphthenic Acid Corrosion	31	Brittle Fracture	57	Titanium Hydriding
07	Ammonium Bisulfide Corrosion	32	Sigma Phase Embrittlement	58	Soil Corrosion
08	Ammonium Chloride Corrosion	33	885°F (475°C) Embrittlement	59	Metal Dusting
09	HCI Corrosion	34	Softening (Spheroidization)	60	Strain Aging
10	High Temperature Hydrogen Attack	35	Reheat Cracking	61	Sulfate Stress Corrosion Cracking
11	Oxidation	36	Sulfuric Acid Corrosion	62	Phosphoric Acid Corrosion
12	Thermal Fatigue	37	Hydrofluoric Acid Corrosion	63	Phenol (carbolic acid) Corrosion
13	Sour Water Corrosion (acidic)	38	Flue Gas Dew Point Corrosion	64	Ethanol Stress Corrosion Cracking
14	Refractory Degradation	39	Dissimilar Metal Weld (DMW) Cracking	65	Oxygen Enhanced Ignition and Combustion
15	Graphitization	40	Hydrogen Stress Cracking in HF	66	Organic Acid Corrosion of Distillation Tower Overhead Systems
16	Temper Embrittlement (TE)	41	Dealloying (Dezincification / Denickelification)	67	Polysulfide Corrosion
17	Decarburization	42	CO2 Corrosion	68	Non-Boiler Oxygen Pitting
18	Caustic Cracking	43	Corrosion Fatigue	69	Under Deposit Corrosion
19	Caustic Corrosion	44	Fuel Ash Corrosion	70	Corrosion at Injection Points
20	Erosion / Erosion-Corrosion	45	Amine Corrosion	71	Corrosion at Mix Points
21	Carbonate SCC	46	Corrosion Under Insulation (CUI)	72	Corrosion at Low Flow or No Flow Areas (Deadlegs)
22	Amine Cracking	47	Atmospheric Corrosion	73	Corrosion at Critical Pipe Class
23	Chloride Stress Corrosion Cracking	48	Ammonia Stress Corrosion Cracking	75	Changes (Spec Breaks)
24	Carburization	49	Cooling Water Corrosion	74	Creep Embrittlement (Cr-Mo above
25	Hydrogen Embrittlement	50	Boiler Water / Condensate Corrosion	74	900F)
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