



Technical Videos from Institute of Quality and Reliability

<https://www.youtube.com/channel/UC9EZWioUA4xzTXT1BH7SFyg>

As on  
08-Mar-24

CRE Section	SN	Group	Video title	Link	Duration
1	1	Reliability Concepts	Benefits of Reliability Engineering (CRE Learning Videos)	<a href="https://youtu.be/7OupKoS3_xA">https://youtu.be/7OupKoS3_xA</a>	4:03
1	2	Reliability Concepts	Hazard Rate and related concepts in Reliability Engineering	<a href="https://youtu.be/0a-BF036Di4">https://youtu.be/0a-BF036Di4</a>	9:20
1	3	Reliability Concepts	Product Life Cycle (CRE Preparation Videos)	<a href="https://youtu.be/P5tK6Xb19_E">https://youtu.be/P5tK6Xb19_E</a>	11:38
1	13	Quality Tools	Pareto Chart on Excel	<a href="https://youtu.be/BpV2-Ns9Gd8">https://youtu.be/BpV2-Ns9Gd8</a>	19:13
1	14	Quality Tools	Histogram and Descriptive Statistics on Excel	<a href="https://youtu.be/JOqujg5_I74">https://youtu.be/JOqujg5_I74</a>	6:43
1	22	Basic Statistics	Correlation and Regression on Casio fx991-MS Calculator and Excel	<a href="https://youtu.be/ufMh8lfZ3YQ">https://youtu.be/ufMh8lfZ3YQ</a>	15:19
1	94	Six Sigma	Sigma Level and PPM Calculation on Excel	<a href="https://youtu.be/XPcXPLZVsX4">https://youtu.be/XPcXPLZVsX4</a>	14:57
1	95	Six Sigma	Sigma Level and Process Capability Indices	<a href="https://youtu.be/6KFGm--Kabc">https://youtu.be/6KFGm--Kabc</a>	7:21
2	78	Risk Analysis	Fault Tree Analysis (FTA)	<a href="https://youtu.be/jZpBW5-eX8">https://youtu.be/jZpBW5-eX8</a>	13:30
2	79	Risk Analysis	FMEA Part-1: Planning and Preparing for DFMEA	<a href="https://youtu.be/HxC11FFImhI">https://youtu.be/HxC11FFImhI</a>	12:24
2	80	Risk Analysis	FMEA Part-2: Using DFMEA Form and Rating Guidelines	<a href="https://youtu.be/kgKTcFfO4Wk">https://youtu.be/kgKTcFfO4Wk</a>	20:24
2	81	Risk Analysis	FMEA Part-3: DFMEA Application Case Studies	<a href="https://youtu.be/4PRpigXhMMc">https://youtu.be/4PRpigXhMMc</a>	16:20
2	91	Risk Analysis	The XOR Gate in Fault Tree Analysis (FTA)	<a href="https://youtu.be/SbEFLRjsXyM">https://youtu.be/SbEFLRjsXyM</a>	6:00
3	4	Basic Statistics	Using Casio FX 991 MS Calculator for Statistical Calculations	<a href="https://youtu.be/wt7HtT6Q0sM">https://youtu.be/wt7HtT6Q0sM</a>	10:07
3	5	Probability Distributions	Weibull Distribution Part-1	<a href="https://youtu.be/dxwlyZ-8_GM">https://youtu.be/dxwlyZ-8_GM</a>	11:52
3	6	Probability Distributions	Weibull Distribution Part2: Three-Parameter Weibull, B10 life, Characteristic Life	<a href="https://youtu.be/WbG5Z7irUu4">https://youtu.be/WbG5Z7irUu4</a>	12:33
3	7	Probability Distributions	Exponential "The Memoryless" Distribution	<a href="https://www.youtube.com/watch?v=b57FzIGdCY4&amp;t=530s">https://www.youtube.com/watch?v=b57FzIGdCY4&amp;t=530s</a>	15:18
3	8	Probability Distributions	Normal Distribution and Z Score with Application Example	<a href="https://youtu.be/WR4-A_zVK28">https://youtu.be/WR4-A_zVK28</a>	10:05
3	9	Probability Distributions	Binomial Distribution and its applications	<a href="https://youtu.be/4XyfnABrhVk">https://youtu.be/4XyfnABrhVk</a>	11:50
3	10	Probability Distributions	Lognormal distribution, Concepts and Applications	<a href="https://youtu.be/rLv1k_PxUOE">https://youtu.be/rLv1k_PxUOE</a>	12:03
3	11	Probability Distributions	and Excel	<a href="https://youtu.be/LpZvNNgSdZo">https://youtu.be/LpZvNNgSdZo</a>	10:19
3	12	Probability Distributions	Understanding the Chi-square Distribution with simulation	<a href="https://youtu.be/IFazhwOo8Rw">https://youtu.be/IFazhwOo8Rw</a>	6:45
3	15	Life Data Analysis	Weibull Probability Plotting of complete data using median ranks with example	<a href="https://youtu.be/dsuLV52yQ4U">https://youtu.be/dsuLV52yQ4U</a>	18:07
3	17	Life Data Analysis	data of shock absorbers	<a href="https://youtu.be/Ve4skYqVzUQ">https://youtu.be/Ve4skYqVzUQ</a>	9:17
3	18	Life Data Analysis	Exponential Probability Plotting on Excel	<a href="https://www.youtube.com/watch?v=O6ieBV3cTtl&amp;t=">https://www.youtube.com/watch?v=O6ieBV3cTtl&amp;t=</a>	9:34
3	19	Basic Statistics	Central Limit Theorem: Concepts and Simulation	<a href="https://youtu.be/Z9l_gmHCW9c">https://youtu.be/Z9l_gmHCW9c</a>	6:06
3	20	Reliability Techniques	MTBF Confidence Intervals using tables and Excel Template	<a href="https://youtu.be/QuglkwYI504">https://youtu.be/QuglkwYI504</a>	10:48
3	21	Reliability Techniques	Tolerance Intervals	<a href="https://youtu.be/BkcXHPmuoW4">https://youtu.be/BkcXHPmuoW4</a>	11:40
3	27	Sampling Plans	Reliability Sampling Plans Part-1 (Basic Concepts)	<a href="https://youtu.be/OU6Y3MvRnIY">https://youtu.be/OU6Y3MvRnIY</a>	7:39
3	28	Sampling Plans	Reliability Testing Sampling Plans Part-2 (PRST and Fixed Length Plans)	<a href="https://youtu.be/Me75vHEf56E">https://youtu.be/Me75vHEf56E</a>	11:53
3	29	Sampling Plans	Sample size in Reliability Testing: Part-2	<a href="https://youtu.be/Aa8FFh4GxCw">https://youtu.be/Aa8FFh4GxCw</a>	9:45
3	32	Hypothesis Testing	Test	<a href="https://youtu.be/tEli7WuOxhQ">https://youtu.be/tEli7WuOxhQ</a>	19:13
3	33	Hypothesis Testing	Hypothesis Testing Part-2: One Sample t-test, t-distribution, Degrees of Freedom and P-Value	<a href="https://youtu.be/euzzQU3nOUU">https://youtu.be/euzzQU3nOUU</a>	18:27
3	35	Hypothesis Testing	Hypothesis Testing Part-3: Two Sample t-test with tables and using Excel	<a href="https://youtu.be/yavwQ08Cf48">https://youtu.be/yavwQ08Cf48</a>	16:11
3	36	Hypothesis Testing	Hypothesis Testing Part-4: The Paired t-test	<a href="https://www.youtube.com/watch?v=BrwdD40YBl&amp;t=">https://www.youtube.com/watch?v=BrwdD40YBl&amp;t=</a>	12:14
3	37	Hypothesis Testing	Hypothesis Testing Part-5: Chi-square test of one-variance	<a href="https://www.youtube.com/watch?v=siG9oKQR-Gc">https://www.youtube.com/watch?v=siG9oKQR-Gc</a>	7:44
3	38	Hypothesis Testing	Tables	<a href="https://www.youtube.com/watch?v=4VkJUrraqN24">https://www.youtube.com/watch?v=4VkJUrraqN24</a>	16:10
3	39	Hypothesis Testing	Hypothesis Testing Part-7: One and Two-proportion Tests	<a href="https://youtu.be/KgpZGsgnTHY">https://youtu.be/KgpZGsgnTHY</a>	15:49
3	40	Hypothesis Testing	Sample Size and Power in Hypothesis Testing	<a href="https://www.youtube.com/watch?v=XJKY8ELjupQ&amp;p">https://www.youtube.com/watch?v=XJKY8ELjupQ&amp;p</a>	10:37
3	47	Reliability Techniques	Sample size in Reliability Testing Part-1 (One-shot Devices)	<a href="https://youtu.be/HTBfMK7PVQU">https://youtu.be/HTBfMK7PVQU</a>	10:34
3	58	Confidence Intervals	Confidence Intervals Part-1 (Mean: Sigma known)	<a href="https://youtu.be/5fhQ9x-MrwM">https://youtu.be/5fhQ9x-MrwM</a>	14:36
3	59	Confidence Intervals	Confidence Intervals Part-2 (Mean:Sigma unknown)	<a href="https://youtu.be/7FSwDtazBZA">https://youtu.be/7FSwDtazBZA</a>	7:42
3	60	Confidence Intervals	Confidence Intervals Part-3 (Proportion and Std.Deviation)	<a href="https://www.youtube.com/watch?v=zrbvZw-">https://www.youtube.com/watch?v=zrbvZw-</a>	10:41
3	61	Life Data Analysis	Life Data Analysis of complete data using Minitab software	<a href="https://youtu.be/JuQ_AEti1vE">https://youtu.be/JuQ_AEti1vE</a>	8:37
3	62	Life Data Analysis	Life Data Analysis of Right Censored data using Minitab Software (revised video)	<a href="https://youtu.be/wB8G9POVWjRc">https://youtu.be/wB8G9POVWjRc</a>	10:33
3	63	Life Data Analysis	Warranty Data Analysis on Minitab	<a href="https://youtu.be/56imZiWa8yc">https://youtu.be/56imZiWa8yc</a>	14:38
3	64	Life Data Analysis	Reliability Analysis of life data with Multiple Failure Modes	<a href="https://youtu.be/LhvitUnUHcl">https://youtu.be/LhvitUnUHcl</a>	12:33
3	66	Life Data Analysis	Reliability Estimation with Kaplan Meier Method	<a href="https://youtu.be/lpCi7VacPlw">https://youtu.be/lpCi7VacPlw</a>	13:50
3	68	SPC	SPC-1: Statistical Process Control Chart Selection, and Application Example on Excel	<a href="https://youtu.be/d62bT4DWPWs">https://youtu.be/d62bT4DWPWs</a>	24:29
3	69	SPC	SPC-2: SPC-2: Proportion Defective and Number Defective charts (p and np charts)	<a href="https://youtu.be/ipyhsszjDQg">https://youtu.be/ipyhsszjDQg</a>	13:54
3	73	Life Data Analysis	B10 Life for Exponential Distribution	<a href="https://youtu.be/sGZDshCAIRs">https://youtu.be/sGZDshCAIRs</a>	4:22



Technical Videos from Institute of Quality and Reliability

<https://www.youtube.com/channel/UC9EZWioUA4xzTXT1BH7SFyg>

As on  
08-Mar-24

CRE Section	SN	Group	Video title	Link	Duration
3	74	Life Data Analysis	B10 Life for Weibull and Lognormal Distribution	<a href="https://youtu.be/9BIJVOhcANo">https://youtu.be/9BIJVOhcANo</a>	7:12
3	88	Basic Statistics	Normal Probability Plotting	<a href="https://youtu.be/N28IN5F0W-Y">https://youtu.be/N28IN5F0W-Y</a>	14:25
3	89	Basic Statistics	Goodness of Fit Tests	<a href="https://youtu.be/Ddvqf22Cv6c">https://youtu.be/Ddvqf22Cv6c</a>	19:41
3	90	Reliability Mathematics	Probability Functions in Reliability	<a href="https://youtu.be/wlp2-Z09nPY">https://youtu.be/wlp2-Z09nPY</a>	18:17
3	93	SPC	Process Capability Analysis: CP, CPk, Sigma Level	<a href="https://www.youtube.com/watch?v=s1XZoxqNWBU">https://www.youtube.com/watch?v=s1XZoxqNWBU</a>	20:14
3	96	Reliability Testing	Reliability Sample Size P3 with failures using Binomial	<a href="https://youtu.be/AwuYF6TWPo0">https://youtu.be/AwuYF6TWPo0</a>	14:10
3	97	Life Data Analysis	Weibull Probability Plotting of right censored data using Excel	<a href="https://youtu.be/Q5sG2uMH_lw">https://youtu.be/Q5sG2uMH_lw</a>	19:25
4	16	Reliability Testing	Activation Energy for Arrhenius Model	<a href="https://youtu.be/9kKMr71Sndw">https://youtu.be/9kKMr71Sndw</a>	13:10
4	23	Reliability Testing	Reliability Growth: Concepts, Strategy, Duane Model and Application Case Study	<a href="https://youtu.be/3geXHUcxaSA">https://youtu.be/3geXHUcxaSA</a>	14:59
4	24	Reliability Testing	Accelerated Life Test (ALT Video-1)	<a href="https://youtu.be/fH9iS9hBnZQ">https://youtu.be/fH9iS9hBnZQ</a>	10:18
4	25	Reliability Testing	Accelerated Life Testing (ALT) Part-2	<a href="https://youtu.be/qyN9yOp4zWg">https://youtu.be/qyN9yOp4zWg</a>	14:01
4	26	Reliability Testing	Software)	<a href="https://youtu.be/vMEuvF_suls">https://youtu.be/vMEuvF_suls</a>	12:01
4	44	Design for Reliability	Reliability Prediction using Monte Carlo Simulation	<a href="https://youtu.be/-G5DSzPIEjU">https://youtu.be/-G5DSzPIEjU</a>	10:27
4	72	Physics of Failure	Miner's Rule for Cumulative Damage Theory and Fatigue Failures	<a href="https://youtu.be/tOVvqKidsTs">https://youtu.be/tOVvqKidsTs</a>	7:48
4	75	Repairable systems	Homogeneous and Nonhomogeneous Process	<a href="https://youtu.be/v9b2tB9ukZw">https://youtu.be/v9b2tB9ukZw</a>	12:36
4	76	Reliability Testing	Reliability Growth: Crow AMSAA Model	<a href="https://youtu.be/bbSS8_5aMes">https://youtu.be/bbSS8_5aMes</a>	10:45
4	77	Reliability Testing	Reliability Growth: Extended Crow AMSAA Model	<a href="https://youtu.be/SxVswTCNg7M">https://youtu.be/SxVswTCNg7M</a>	15:42
4	82	Reliability Modeling	Reliability Block Diagrams	<a href="https://youtu.be/D4bgQln-idQ">https://youtu.be/D4bgQln-idQ</a>	11:59
5	34	Design of Experiments	DOE-9: Degrees of freedom and Replication	<a href="https://youtu.be/oFz8iOx96mw">https://youtu.be/oFz8iOx96mw</a>	6:04
5	41	ANOVA	ANOVA Part-1: Introduction, Concepts and F-Test	<a href="https://youtu.be/Hnik_PgrHQY">https://youtu.be/Hnik_PgrHQY</a>	14:37
5	42	ANOVA	ANOVA Part-2: Partitioning Sum of Squares	<a href="https://youtu.be/XuPkDGiq_-8">https://youtu.be/XuPkDGiq_-8</a>	13:11
5	43	Design for Reliability	(Analytical Method)	<a href="https://youtu.be/WeTHHIF7tI4">https://youtu.be/WeTHHIF7tI4</a>	11:54
5	45	Design for Reliability	Statistical Tolerancing using Monte Carlo Simulation	<a href="https://youtu.be/f4eEgNPGG0J">https://youtu.be/f4eEgNPGG0J</a>	7:43
5	46	Design for Reliability	Carlo Simulation	<a href="https://youtu.be/8-taU-UKnLk">https://youtu.be/8-taU-UKnLk</a>	11:23
5	48	Design of Experiments	DOE-1: Introduction to Design of Experiments	<a href="https://youtu.be/pTAUA6qXV6E">https://youtu.be/pTAUA6qXV6E</a>	12:36
5	49	Design of Experiments	DOE-10: Design of Experiments: Terms and Definitions	<a href="https://youtu.be/IzYH6Czee1E">https://youtu.be/IzYH6Czee1E</a>	9:59
5	50	Design of Experiments	Welding Process	<a href="https://youtu.be/cjXYKvng1-q">https://youtu.be/cjXYKvng1-q</a>	13:16
5	51	Design of Experiments	& establishing regression equation	<a href="https://youtu.be/W-H8b86zJcl">https://youtu.be/W-H8b86zJcl</a>	10:42
5	52	Design of Experiments	fatigue strength of Crankshaft	<a href="https://youtu.be/h6EaP3o4-sU">https://youtu.be/h6EaP3o4-sU</a>	9:36
5	53	Design of Experiments	Maximizing Fatigue Strength	<a href="https://youtu.be/g89Dsxkf03U">https://youtu.be/g89Dsxkf03U</a>	15:05
5	54	Design of Experiments	Resolution Codes	<a href="https://youtu.be/MQhf1KFhYCW">https://youtu.be/MQhf1KFhYCW</a>	13:29
5	55	Design of Experiments	DOE-8: Linearity and Orthogonality in Experimental Design	<a href="https://youtu.be/6QWRik0HEFE">https://youtu.be/6QWRik0HEFE</a>	6:11
5	56	Design of Experiments	Minitab: Optimization of Fatigue Strength	<a href="https://youtu.be/d1IUNrOKc2g">https://youtu.be/d1IUNrOKc2g</a>	7:46
5	57	Design of Experiments	DOE-11: Fractional Factorial Design in Minitab	<a href="https://youtu.be/pBLt2V6HRzc">https://youtu.be/pBLt2V6HRzc</a>	13:50
5	67	Design of Experiments	Analysis	<a href="https://youtu.be/CWhzhLnkE8">https://youtu.be/CWhzhLnkE8</a>	28:18
5	83	Maintainability	Maintainability and Availability	<a href="https://youtu.be/i-jGv_fvmc">https://youtu.be/i-jGv_fvmc</a>	11:17
5	84	Design for Reliability	Reliability Allocation	<a href="https://youtu.be/dPjTcQ-xDjg">https://youtu.be/dPjTcQ-xDjg</a>	12:03
5	85	Design for Reliability	Statistical Tolerancing	<a href="https://youtu.be/Yzrx68MOgtM">https://youtu.be/Yzrx68MOgtM</a>	13:43
5	86	Design for Reliability	Introduction to Robust Design	<a href="https://youtu.be/7sPgqm03FzM">https://youtu.be/7sPgqm03FzM</a>	15:07
5	87	Design for Reliability	Parts Selection	<a href="https://youtu.be/pN35d-OsliE">https://youtu.be/pN35d-OsliE</a>	12:26
5	92	Design for Reliability	Design for Reliability Overview	<a href="https://youtu.be/9q_-D40FI1Q">https://youtu.be/9q_-D40FI1Q</a>	6:36