



## Material Models

	CL	CL+DT	EIE	fe-safe/Rubber
Materials database	X	X		X
Hyperelastic laws: Neo-hookean, Arruda-Boyce, Mooney-Rivlin, Reduced Polynomial, Van der Waals, Ogden	X	X		X
Mullins Effect	X	X		X
Crack Growth Rate laws: Thomas, Lake-Lindley, table-lookup	X	X		X
Crystallization laws: None, Mars-Fatemi, table lookup	X	X		X
Ozone attack, creep crack growth	X	X		X
Temperature dependence: coefficient or table-lookup	X	X		coefficient only
Hysteresis / Self-heating: powerlaw, Kraus, Table-Lookup	X	X		NA

## Procedures

	CL	CL+DT	EIE	fe-safe/Rubber
Total formulation fatigue solver	X	X		X
Rolling structures (ie tires) with axi- or cyclic- symmetry	X	X		NA
Critical plane analysis	X	X		X
Rainflow counting w/time indices preserved for event identification	X	X		X
Diagnostics: critical plane vector, load history on critical plane, crack open/close history	X	X		X
Results Viewer	X	X		Note 1
Incremental formulation fatigue solver		X		NA
Block cycle schedules / multi-step protocols		X		Miner's rule only
Sequence effects		X		NA
Restart capability		X		NA
Stiffness loss cosimulation		X		NA
Residual life		X		NA
Digital Twin applications		X		NA
Nonlinear load/displacement->stress/strain map			X	
Auto-generation of FE model boundary conditions for map generation			X	
1,2 or 3 independent input channels			X	
Mapping methods: Case vectors, Spiral Grid, User-defined			X	
Accelerated strain history generation			X	
Multi-threading / parallel processing	Note 2	Note 2	X	X

## Supported 3rd Party Codes

	CL	CL+DT	EIE	fe-safe/Rubber
Abaqus	X	X	X	X
Ansys	X	X	X	
MSC/Marc	X	X	X	
fe-safe/Rubber			X	

## Licensing

	CL	CL+DT	EIE	fe-safe/Rubber
Node-locked	X	X	X	Available only through Dassault Systems
Network floating	X	X	X	
Annual lease	X	X	X	
Perpetual	X	X	X	
Maintenance and Support	X	X	X	
Multi-Site, Multi-Country, Global	X	X	X	

Note 1 - Available as free download from Endurica for licensed fe-safe/Rubber users.

Note 2 - Multi-threading for CL and DT currently available only via input file splitting procedure.