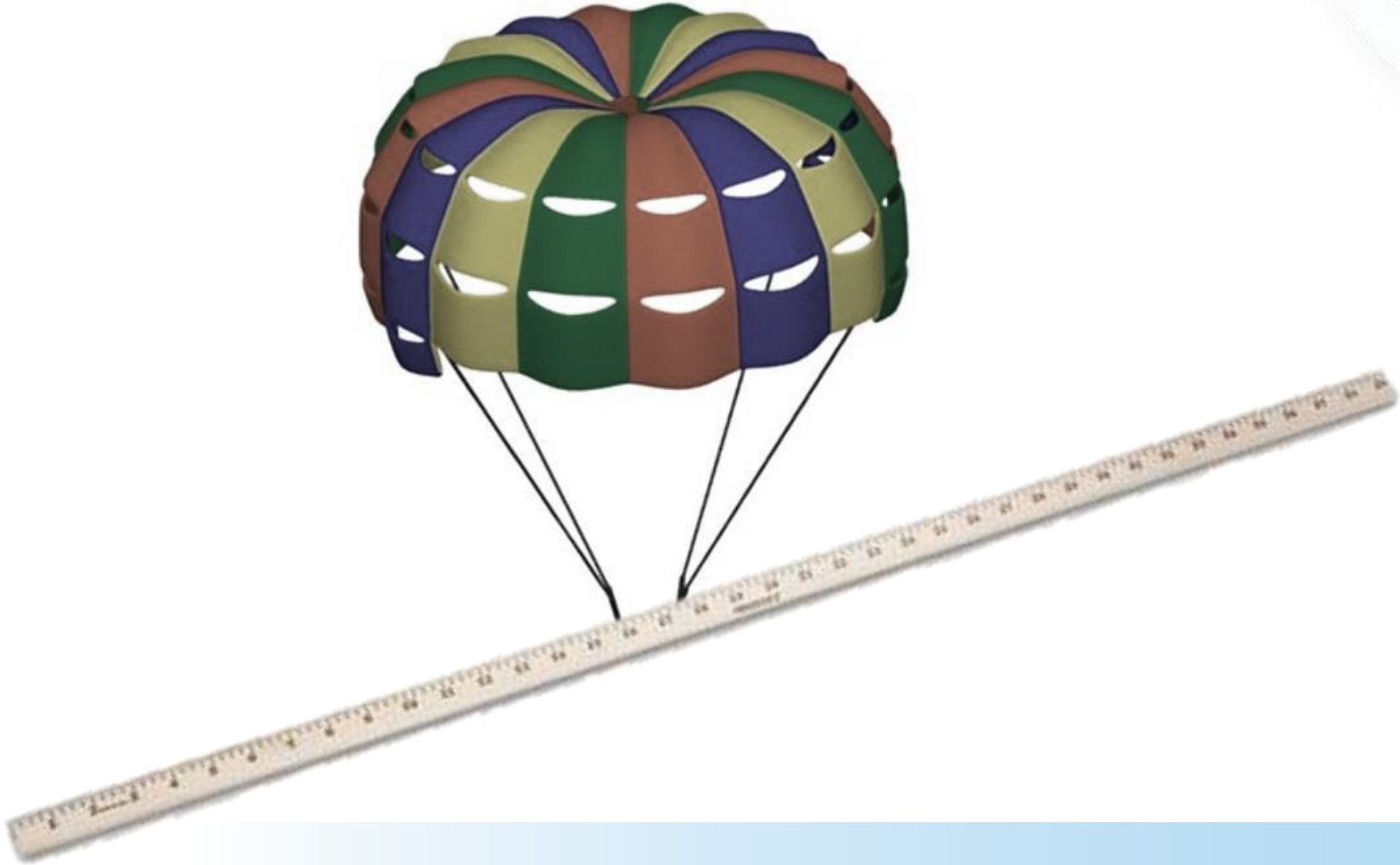




Design Optimization

Michael Steeves
Senior Application Engineer
Quest Integration

It's About What?



Parameters

- Design for Manufacturability
- Costing
- Material Search and Selection

DFM

- All SOLIDWORKS Licenses include DFMXpress
- Tools>Xpress Products>DFMXpress
- Registration code from my.solidworks.com



Costing

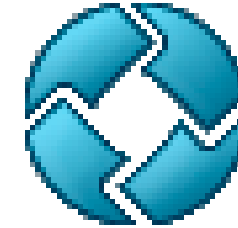
- With 2016
 - SOLIDWORKS Premium has Costing for Assemblies
- Since 2012
 - SOLIDWORKS Professional has Costing for Parts



Material Search and Selection

- Greater than, Less than or Comparable for

- Elastic Modulus
- Poisson's Ratio
- Shear Modulus
- Thermal Expansion Coefficient
- Mass Density
- Thermal Conductivity
- Specific Heat
- Tensile Strength
- Yield Strength
- Hardening Factor
- Financial Impact



- **SW Standard or Professional (any pre 2016)**
 - Tools>Xpress Products>SustainabilityXpress
- **SW Premium (2016 or later)**
 - Tools>SOLIDWORKS Applications>Sustainability
 - Also in Evaluate tab (CommandManager)

Material Search and Selection

Sustainability

Material

Class: Steel

Name: 1023 Carbon Steel Sheet (SS)

Recycled content: 15 %

Weight: 0.10 lbs

Find Similar **Set Material**

Find Similar Material

Materials	Material Class	Elastic modulus N/m ²	Poisson's ratio N/A	Shear modulus N/m ²	Thermal expansi... /K	Mass density kg/m ³	Thermal conduc... W/(m·K)
1023 Carbon Steel Sh...	Steel	2.05e+011	0.29	8e+010	1.2e-005	7858	52

Property	Condi...	Value	Units
Material Class	=	-any-	
Elastic modulus	-any-	2.05e+011	N/m ²
Poisson's ratio	-any-	0.29	N/A
Shear modulus	-any-	8e+010	N/m ²
Thermal expansion coefficient	-any-	1.2e-005	/K
Mass density	-any-	7858	kg/m ³
Thermal conductivity	-any-	52	W/(m·K)
Specific heat	-any-	486	J/(kg·K)
Tensile strength	-any-	4.25e+008	N/m ²
Yield strength	-any-	2.82685e+008	N/m ²
Hardening factor (0.0-1.0; 0.0=isotropic; 1.0=kinematic)	-any-	0.85	N/A
Financial Impact	-any-	0.40	USD/kg

Select search criteria. Set the condition(s) and value(s)

Find Similar

Environmental Impact

Carbon Selected Original

Energy Selected Original

Air Selected Original

Water Selected Original

Material Financial Impact Selected Original

Manufacturing Process: Milled

Units: SI - N/m² (Pa)

Accept Edit Cancel Help

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