



SOUTHWEST WIRE ROPE
A Division of Houston Wire & Cable Company

Southwest Wire Rope's Engineering Services Department provides Engineered Lifting Devices, Lift Plans and Engineered Load Testing services under the leadership of a Professional Engineer on staff with experience in Heavy Lifting.

BELOW-THE-HOOK LIFTING DEVICES

Available for purchase and rentals

Our Engineered Lifting Products are designed and constructed per ASME B30.20 (Below-the-Hook Lifting Devices) and ASME BTH-1 (Design of Below-the-Hook Lifting Devices). Other standards (DNV, API, ABS etc.) can also be met upon request. Proof load test certificates are provided with all fabricated products. Our product line includes but is not limited to:



SPREADER BAR (FIXED LENGTH)



SPREADER FRAME



PADEYES



TELESCOPING SPREADER BAR



H-FRAME



FORKLIFT ADAPTER



SPREADER BEAM



SKIP PAN



SPREADER BAR END CAPS



PALLET LIFTER



LIFTING BEAM (FIXED LENGTH)



MATERIAL BASKET



ADJUSTABLE LIFTING BEAM



LIFTING TONG

Other custom fabricated devices like cylinder/bottle/drum lifters, reel lifters, rigging racks and rigging trees.

Contact us at Sales@southwestlifting.com or 800.256.7997

Max. Average Shear Stress (Calculated on web only since the web is the majority of the shear stress)

$$f_s = \frac{WZZ \cdot \text{web} \cdot \text{pitch}}{2 \cdot \text{web} \cdot \text{pitch} \cdot \text{pitch}} \quad f_s = 1039.663 \text{ psi}$$

Total Maximum Deflection

$$\delta = \frac{WZZ \cdot \text{web} \cdot \text{pitch}^3}{48 \cdot E \cdot I_x} + \frac{WZZ \cdot \text{web} \cdot \text{pitch}^3}{48 \cdot E \cdot I_y} + \frac{WZZ \cdot \text{web} \cdot \text{pitch}^3}{48 \cdot E \cdot I_z}$$

Units Check for Flexural Members

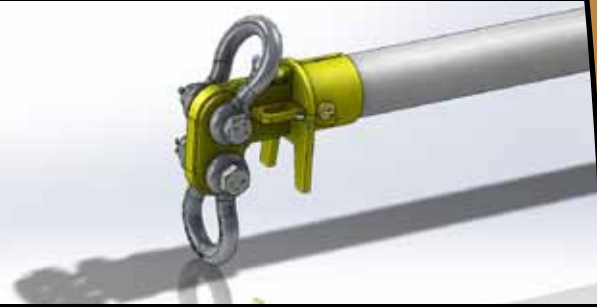
Units Check for Bonding Stress: $f_c = \frac{F_c}{A_c}$ **$f_c = 0.844$**

Units Check for Shear Stress: $f_s = \frac{F_s}{A_s}$ **$f_s = 0.137$**

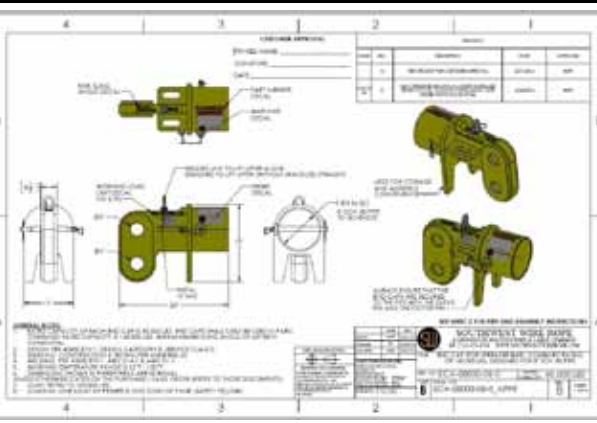
Units Check for Deflection: $f_d = \frac{\delta}{L}$ **$f_d = 0.114$**

All Units Checks Shall Be Less Than Unity

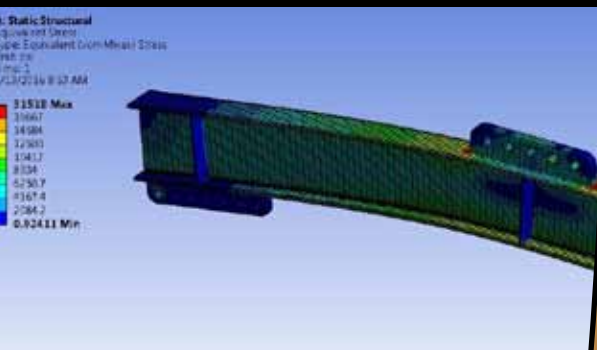
STRUCTURAL CALCULATIONS



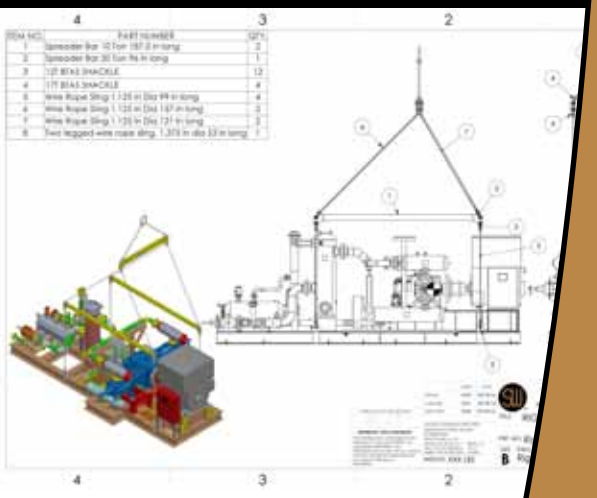
3D MODELS



2D DRAWINGS



FINITE ELEMENT ANALYSIS



LIFT PLANS (RIGGING DIAGRAMS)

Southwest Wire Rope performs structural calculations using Mathcad, creates 3D models and 2D drawings using Solidworks, verifies the designs by performing Finite Element Analysis (FEA) in ANSYS Workbench, and validates the lifting devices by performing proof load tests.

LIFT PLANS

We provide lift plans (rigging diagrams) for all kinds of lifts. Whether you have a simple lift with off-centered Center of Gravity (CG), or a complicated lift with many lift points that requires a fleet of spreader bars, slings and shackles, we can custom engineer lift plans for you.

ENGINEERED LOAD TESTING SERVICES

We provide Proof Load Testing and Destructive (Break) Testing of various lifting devices. Load testing can be performed using specialized rigging and custom built test jigs that replicate the ultimate field installation of complex and highly engineered products. Our computerized test beds are calibrated to ASTM E4 standards. Load test certificates are provided for all tests.

SALES & DISTRIBUTION OFFICES

TEXAS

Southwest Wire Rope - Headquarters

8641 Moers Rd
Houston, Texas 77075
P: 713.453.8518
F: 713.453.7209
800.256.7997

LOUISIANA

New Iberia, Louisiana

1404 Hwy 90 West
New Iberia, LA 70560
P: 337.364.0483
F: 337.367.7423
800.272.1574

Sulphur, Louisiana

575 Dennis Rd.
Sulphur, LA 70665
P: 337.583.4731
F: 337.583.9386
800.835.4731



SOUTHWEST WIRE ROPE
A Division of Houston Wire & Cable Company

www.southwestlifting.com

RIGHT PRODUCT · RIGHT PLACE · RIGHT TIME®

Southwest Wire Rope® is a registered trademark of Houston Wire & Cable Company.