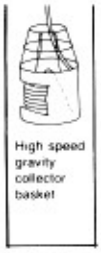
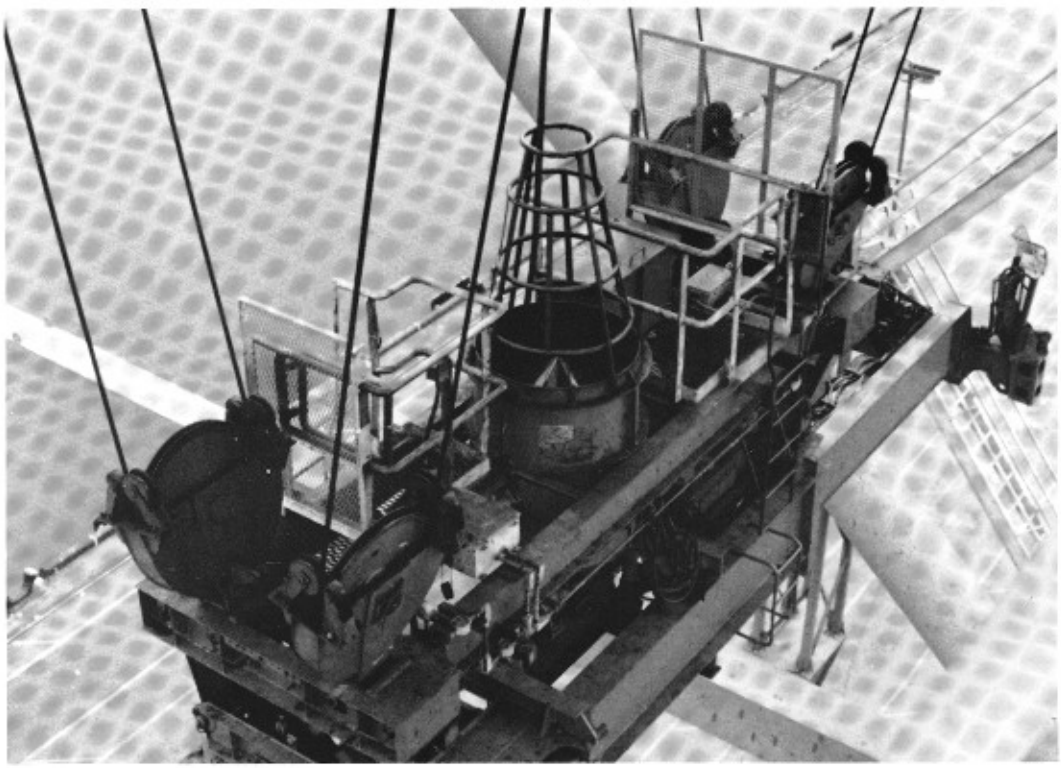
SPREADERFLEX® Fiber-Optic Composite Cable

Composite Spreader Basket Cable, PVC Insulation, Optical Fiber bundle, Lead Bead Weighted, KEVLAR® Messenger, Polyurethane Jacket, 75ºC, 600 Volt



High speed gravity collector basket



SPREADERFLEX® composite cable is designed specifically for use in container crane spreader baskets. It supersedes conventional flexible control cables previously used for this application. The self coiling and uncoiling operation and vertical suspension cause combined torsional/tensional forces unlike those occurring in other applications. SPREADERFLEX® cable allows for adverse operational factors such as poor basket design, high winds, and increasing hoist and travel speeds on new generation cranes.

Application

This advanced cable design is used for vertical freefall operation in outdoor marine environments that require cable self coiling and uncoiling in a collector basket. Versions of SPREADERFLEX® cable are available with shielded conductors for load cells, control purposes, or data transmission. The cable should not be used for applications employing force guiding devices such as reelers, guide rollers or sheaves.

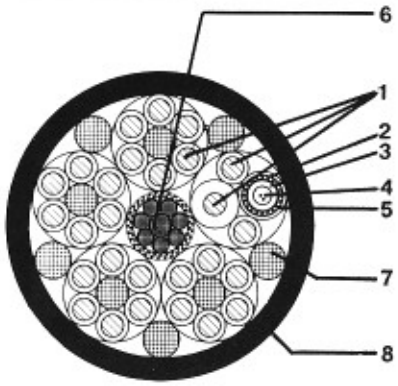
Design

Extra finely stranded copper conductors are insulated with PROTODUR® cold resistant PVC. The conductors are grouped in bundles around lead beaded weight element cords. One bundle is composed of a buffer tube containing (3) 62.5/125µm optical fiber. The bundles are then textile taped and laid up around the central supporting element that consists of multiple lead beaded cords with a KEVLAR® reinforcing braid. Additional lead beaded weight element cords and textile fillers complete the conductor assembly. A black polyurethane jacket which is resistant to oil, abrasion, and cold temperature is extruded overall.

Temperature Ratings

Maximum permissible conductor temperature: 75°C
Minimum ambient temperature for optimum fully flexible operation: –20°C
Minimum permissible ambient temperature: –55°C

Ampacity and Voltage Drop	Tables 3/3 and 3/9 on pages 40 & 41 may be used to determine the appropriate ampacity for SPREADERFLEX cables. Table 3/12 on page 42 can then be applied to calculate voltage drop.
Voltage Ratings	Rated voltage: 600 volts A.C. factory test voltage: 2000 volts (r.m.s)
Operating Suspension Height	The KEVLAR® braided reinforcement messenger is rated to provide a safety factor of 5 when the cable is suspended vertically for 165 feet (50 meters).
Color Sequence for Control Cables	NEMA WC8, is used to identify conductors. All control conductors have black insulation and are sequentially numbered.



SPREADERFLEX Composite Cable

1 Finely stranded copper conductors with black cold resistant PROTODUR® PVC insulation
2 KEVLAR® reinforcement
3 ETFE loose buffer tube
4 3 core 62.5/125 µm glass multimode optical fiber assembly
5 Black PROTODUR® PVC buffer tube sheath
6 KEVLAR® braided reinforcement messenger
7 Cotton braid covered lead bead cords
8 Cold, oil and abrasion resistant black polyurethane outer jacket

SPREADERFLEX Composite Cables

Anixter Part Number	Number of Conductors	Conductor Size		Approx. Number of Strands per Conductor	Number of Glass Fibers	Nominal diameter of fiber core (µm)	Nominal diameter of fiber Cladding (µm)	Nominal Overall Dimensions		Cable Weight	
		AWG	mm2					Inches	mm	lbs/ 1000ft	kg/km
4ES-1232-40F	32	12	3.31	73	4	62.5	125	1.655	42.0	2600	3870