

# 150 LEAKY FEEDER CABLE

## RNG-500



VarisqSmart Com 150 and Smart Com 150IS Leaky Feeder Cable acts as an antenna to bring wireless voice, data, video and Ethernet into mines and tunnels.

When installed in a system using Smart Com 150 and Smart Com 150IS amplifiers, RNG-500 cable will provide a guaranteed 30 m (98 ft) off-cable coverage and 500 m (1640 ft) amplifier spacing. VarisqRNG-500 Leaky Feeder cable also provides a flame resistant PVC outer shielding.

Since RNG-500 Leaky Feeder Cable is MSHA approved it can be installed in Smart Com 150 and Smart Com 150IS systems interchangeably.



RNG-500 Leaky Feeder Cable

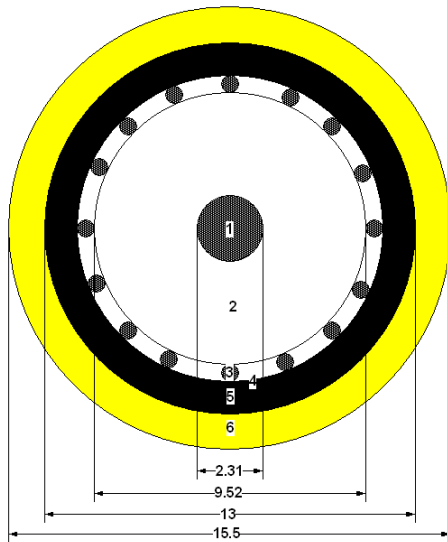
### Product Specifications

LEAKY FEEDER CABLE	
Part Number	RNG-500
<b>Construction</b>	
Inner Conductor	2.31 ± 0.05 mm (0.091 ± 0.002 in) Diameter, Annealed Copper Wire
Dielectric	9.53 ± 0.2 mm (0.375 ± 0.008 in) OD, Gas foam injected polyethylene
Outer Conductor	16 strands x 0.6 ± 0.05 mm (0.024 ± 0.002 in), Annealed copper wire, evenly spaced
Tape	Mylar Tape, as required to hold outer strands in place during manufacturing
Inner Jacket	13.0 ± 0.5 mm (0.512 ± 0.02 in) OD, Low Density Black Polyethylene
Outer Jacket	15.5 ± 0.5 mm (0.610 ± 0.02 in) OD, Yellow PVC
<b>Markings</b>	
Identification Markings	Every 0.9 m (3 ft): Varis Smart Com RNG-500 C C P-07-KA060021-MSHA
Length Markings	xxxxx m, printed every 2 m (6.6 ft)
<b>Physical</b>	
Minimum Bend Radius	1 m (3.3 ft)
Cable Weight	0.23 kg/m (0.155 lbs/ft)
<b>Packaging</b>	
Cable Length/roll	500 m (1640 ft) ± 2%
Reel Outside Diameter	73.7 cm (29 in)
Reel Inside Diameter	30.5 cm (12 in)
Reel Height	50.8 cm (20 in)
Palletization	4 rolls/pallet on a 147.3 x 73.7 cm (58 x 29 in) pallet
Weight per roll (four rolls/pallet)	136 kg (300 lbs)
<b>Electrical</b>	
Maximum Voltage	48 Vrms (Between center conductor and outer conductors)
Maximum Current	Center Conductor: 8 Arms Single Outer Conductor: 0.5 Arms
<b>RF Characteristics</b> (all parameters obtained from Manufacturer)	
Impedance	75 ± 3 Ω
Capacitance	51 ± 2 pF/m
Inner Conductor DC Resistance	m0.0045 Ω/m
Outer Conductor DC Resistance	m0.0042 Ω/m
Inductance	300 nH/m
L/R Ratio	45.09 uH/Ω
Attenuation	m21.5 dB/500 m @ 175 MHz, 20°C

**Approvals**

Intrinsic Safety  
CE Certification

MSHA, System Approval #23-A050001-0  
Yes

**Cable Construction**

1	Inner Conductor
2	Dielectric
3	Outer Conductor
4	Tape
5	Inner Jacket
6	Outer Jacket

**Installation**

Use the following guidelines to ensure proper installation of Leaky Feeder Cable:

- É Leaky Feeder cable must be installed wherever communications are required.
- É Allow for 10% extra cable when laying out system to accommodate for drip loops and cable slack.
- É Avoid parallel branches as they talk into each other and cause system problems.
- É When installing Leaky Feeder cable horizontally secure every 5 m (16 ft) to screening, rock bolts or other support in tunnel.
- É Allow the Leaky Feeder cable to sag away from supporting structure (Do not over tighten).
- É Avoid tying cable tightly to metal beams or piping or inside cable tray.
- É Ensure that a minimum of 1 m (3.3 ft) of cable is installed between components.
- É Install no more than 500 m (1640 ft) of cable between amplifiers.
- É Ensure minimum bend radius of 1 m (3.3 ft).

**Drift Installation:**

- É When installing Leaky Feeder cable along the Drift, install cable along the top-center of the drift for maximum coverage or along top-side for maximum cable protection. It is recommended that the cable be installed along the top-side of the Drift. See Smart Com 150/Smart Com 150IS manual for more information.

**Shaft Installation:**

- É When installing Leaky Feeder cable down the mine shaft, secure cable with Ty-Raps every 3 m (10 ft) to brattice or 1/8+SS messenger cable.
- É Loop cable 20 m (66 ft) onto every level. See Smart Com 150/Smart Com 150IS manual for more information.

**Cable Preparation:**

- É Remove 6 cm (2.4 in) of the outer yellow & black sheaths.
- É Form two stranded wires with 8 of the outer strands in each.
- É Remove 3.5 cm (1.4 in) white foam dielectric & trim the center conductor to 2 cm (0.79 in).
- É Care must be taken not to nick or cut any of the conductors.
- É See Smart Com 150/Smart Com 150IS manual for more information.

**WARNINGS**

The Smart Com 150IS Leaky Feeder Cable (RNG-500) comprises part of an approved IS system only when installed according to the requirements of Varis Mine Technology System Layout Drawing MSHA-IS-01.



Any changes in the Intrinsically Safe circuitry or components may result in an unsafe condition.

