

150 LEAKY FEEDER CABLE

RNG-500

Varis' Smart 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. Varis' RNG-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

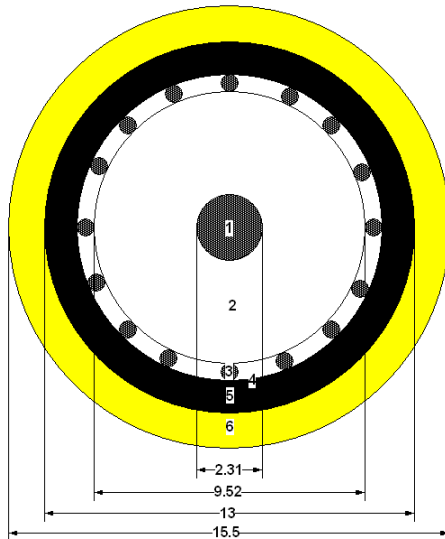
LEAKY FEEDER CABLE	
Part Number	RNG-500
Construction	
Inner Conductor	2.31 ± 0.05 mm (0.091 ± 0.002 in) Diameter, Annealed Copper Wire
Dielectric	9.53 ± 0.2 mm (0.375 ± 0.008 in) OD, Gas foam injected polyethylene
Outer Conductor	16 strands x 0.6 ± 0.05 mm (0.024 ± 0.002 in), Annealed copper wire, evenly 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
Markings	
Identification Markings	Every 0.9 m (3 ft): Varis Smart Com RNG-500 C € P-07-KA060021-MSHA
Length Markings	xxxxx m, printed every 2 m (6.6 ft)
Physical	
Minimum Bend Radius	1 m (3.3 ft)
Max Pulling Force	140 daN (max 315 m (1033 ft) vertical without support)
Cable Weight	0.23 kg/m (0.155 lbs/ft)
Packaging	
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)
Electrical	
Maximum Voltage	48 Vrms
Maximum Current	(Between center conductor and outer conductors) Center Conductor: 8 Arms Single Outer Conductor: 0.5 Arms
RF Characteristics (all parameters obtained from Manufacturer)	
Impedance	75 ± 3 Ω
Capacitance	51 ± 2 pF/m
Inner Conductor DC Resistance	≤ 0.0045 Ω/m
Outer Conductor DC Resistance	≤ 0.0042 Ω/m
Inductance	300 nH/m
L/R Ratio	45.09 uH/Ω
Attenuation	≤ 21.5 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:

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

Drift Installation:

- 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:

- 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.
- Loop cable 20 m (66 ft) onto every level. See Smart Com 150/Smart Com 150IS manual for more information.

Cable Preparation:

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

