

# Innershield® NR®-431

## Self-shielded cored wire

### Classification

AWS A5.26/26M-97 : EG72T-1

### General description

NR-431 is an Innershield consumable used for electrogas welding (EGW).

Vertishield is the Lincoln Electric name for its vertical-up, self-shielded, single pass electrogas arc welding process.

This process does not use an external shielding gas.

Vertishield welds are made by two methods: the consumable guide and the moving shoe process.

### Welding positions



ISO/ASME PF/3G up

### Current type

DC +

### Approvals

### Chemical composition (w%), typical, all weld metal

Chemistries of the welds will change with different heats of steel.

### Mechanical properties, all weld metal

	Condition	Yield strength (N/mm <sup>2</sup> )	Tensile strength (N/mm <sup>2</sup> )	Elongation %	Impact ISO-V(J) -27°C	
Required:	AWS A5.26/26M-97		min. 345	483-655	22	20
Typical values						

### Packaging and available sizes

Unit type	Net weight/unit (kg)	Diameter (mm)
Coils 50C	22.68	X

Innershield® NR®-431: rev. EN 15

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## Suggestions for use

The moving shoe (dam) welding can be used with either a gapped V-groove or square butt plate. Material from 9.5 to 100 mm plate thickness and unlimited length can be welded. The consumable guide process is intended to weld joints less than three feet long. Copper retaining dams extend the full length of the joint.

## Materials to be welded

Steel	Code	Type
General structural steel	EN 10025	S185, S235, S275, S355
Ship plates	ASTM A131	Grade A, B, D, AH32 to DH36

## Calculation data at normal setting

Diameter (mm)	Electrical Stick-out (mm)	Wire feed speed		Current (approx. A)	Arc Voltage (V)	Deposition Rate (kg/h)	kg Wire/ kg Weldmetal
		inch/min	cm/min				
2.4	38	250	635	390-430	34	9	
		300	760	435-465	36	11	
		350	890	480-520	37	13	
		400	1020	530-570	39	15	