

1.2 Equipment info:

ISSUED: M. Levin 18. November 2009	PARKER ENGINEERING MANUAL Parker Hannifin Corporation Polyflex Division Europe	SPEC: HS-2440N-48V80
REVISED / CHECKED M. Weskamp 09. March 2012		REVISION B
SUBJECT: Hose Specification 2440N-48V80 10K 3" BLACK EAGLE with ColorGard™		PAGE: 1 of 2
		
Construction	Material	
Inner core:	Plasticized Nylon 11	
Bond:	Special adhesive	
Pressure reinforcement:	Four spiral layers of high tensile steel wire	
Bond:	Special adhesive	
Outer cover:	TPU inner sheath (red) plus extra thick TPU outer sheath (black)	
Fitting series:	LX (see assembly instructions PFDE-C2440N-48-OF)	
Dimensions	SI units	(Imperial units)
Inner diameter:	75,0 mm ±1,0 mm	(2.953 in ±0,04 in)
Outer diameter:	122,0 mm ±2,0 mm	(4.803 in ±0.08 in)
Min. bend radius:	1100 mm	(43.307 in)
Weight empty in air:	18,7 kg/m	(12.566 lb/ft) see page 2 for other conditions
Max. manufacturing length:	450 m	(1476 ft)
Performances	SI units (Imperial units)	
Burst pressure:	172,5 MPa (25000 psi)	
Working pressure (WP):	69,0 MPa (10000 psi)	
Safety factor:	1:2,5	
Working temperature:	-40 °C to +70 °C (-40 °F to 158 °F), intermittent +100 °C (212 °F)	
Change in length:	±2% acc. to API 7K	
Volumetric expansion:	Typical value 8% at WP*	
Impulse strength:	Achieved ≥ 30000 Impulse cycles acc. to Polyflex work standards (square pressure wave form at WP)	
Chemical resistance:	See PFDE-ES28	
Electrical conductivity:	Yes	
External collapse resistance:	Typical value ≥ 4,0 MPa (580 psi) straight*	
Max. tensile loading:	See PFDE-ES28	
Application and Approvals		
Acc. to DNV Type Approval P-14038 (API 17J, API 7K): Cementing, chemical injection (see certificate), water jetting, air and nitrogen.		
Remarks		
Extra thick, dual colour, abrasion resistant ColorGard™ sheath improves durability and acts as an early warning system to prevent hose failure due to excessive abrasion.		
The above hose performance data is only relevant if used with the specified fittings and assembled according to the approved Parker Polyflex assembly procedure.		
*Note: The above data is calculated or evaluated and has not been confirmed by testing		
Instructions for storage, handling, maintenance, inspection and repair see PFDE-ES28.		
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Qualification Test Results Summary **SI-units (Imperial units)**

Test	Standard	Nominal value	Test result	Test report
Change-in-length test	API 7K 9.6.10.2	±2%	-1,5%	LTR-2101-B
Burst test	API 7K 9.6.7.2	172,5 MPa (25000 psi)	182,9 Mpa (26520 psi)	LTR-2101-B
Impulse test	Polyflex internal standard	30000 pressure cycles from zero to 69,0 Mpa (10000 psi)	No failures after 49390 pressure cycles	LTR-1881-I
Sour gas exproion	The assessment followed procedures and recommendations laid down in API 17J and RP17B	-	The performance of Black Eagle hoses in sour environments up to 2% concentration should not be affected by deterioration to reinforcement or any embrittlement that would affect long-term operation	MERL Report No. PPOLY/4
Tensile test	-	-	No failures at 50 kN (11240 lbf) tensile force	ER-110221
Ambient temperature bending test	API 7K 9.6.10.3.1	-	The tests acc. to API 7K were all performed with hose 2640N-48V80 (3" 15K hose). The test results automatically qualify all 2- and 3 inch Black Eagle hoses. All tests have been passed.	SwRI Report No. 18142.01.330
Cold bend test	API 7K 9.6.10.3.2	-		
Hydrostatic pressure test after bending tests	API 7K 9.6.10.6	-		
Burst pressure test after hydrostatic pressure test	API 7K 9.6.10.7	-		

Hose weights	SI units	(Imperial units)
Hose weight in air (empty):	18,7 kg/m	(12.566 lb/ft)
Hose weight in air (full of water):	23,2 kg/m	(15.590 lb/ft)
Hose weight in water (empty):	6,7 kg/m	(4.502 lb/ft)
Hose weight in water (full of water):	11,3 kg/m	(7.593 lb/ft)