ALFAGOMMA

HIGH PRESSURE MUD AND CEMENT HOSE

ALFAGOMMA GROUP

// API-7K CERTIFIED

Alfagomma is officially authorized to use the API monogram for manufacturing high pressure mud and cement hoses, as specified in the following license.

American Petroleum Institute

Certificate of Authority to use the Official API Monogram

License Number: 7K-0478 **ORIGINAL**

The American Petroleum Institute hereby grants to

ALFAGOMMA HYDRAULIC SPA
Via Enrico Mattei 6
Castelnuovo Vomano, Teramo
Italy

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API-7K** and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: **7K-0478**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: High Pressure Mud and Cement Hoses at FSL 0, at FSL 2

QMS Exclusions: Servicing

Effective Date: AUGUST 26, 2019
Expiration Date: AUGUST 26, 2022

To verify the authenticity of this license, go to www.api.org/compositelist.

Vice President of Global Industry Services

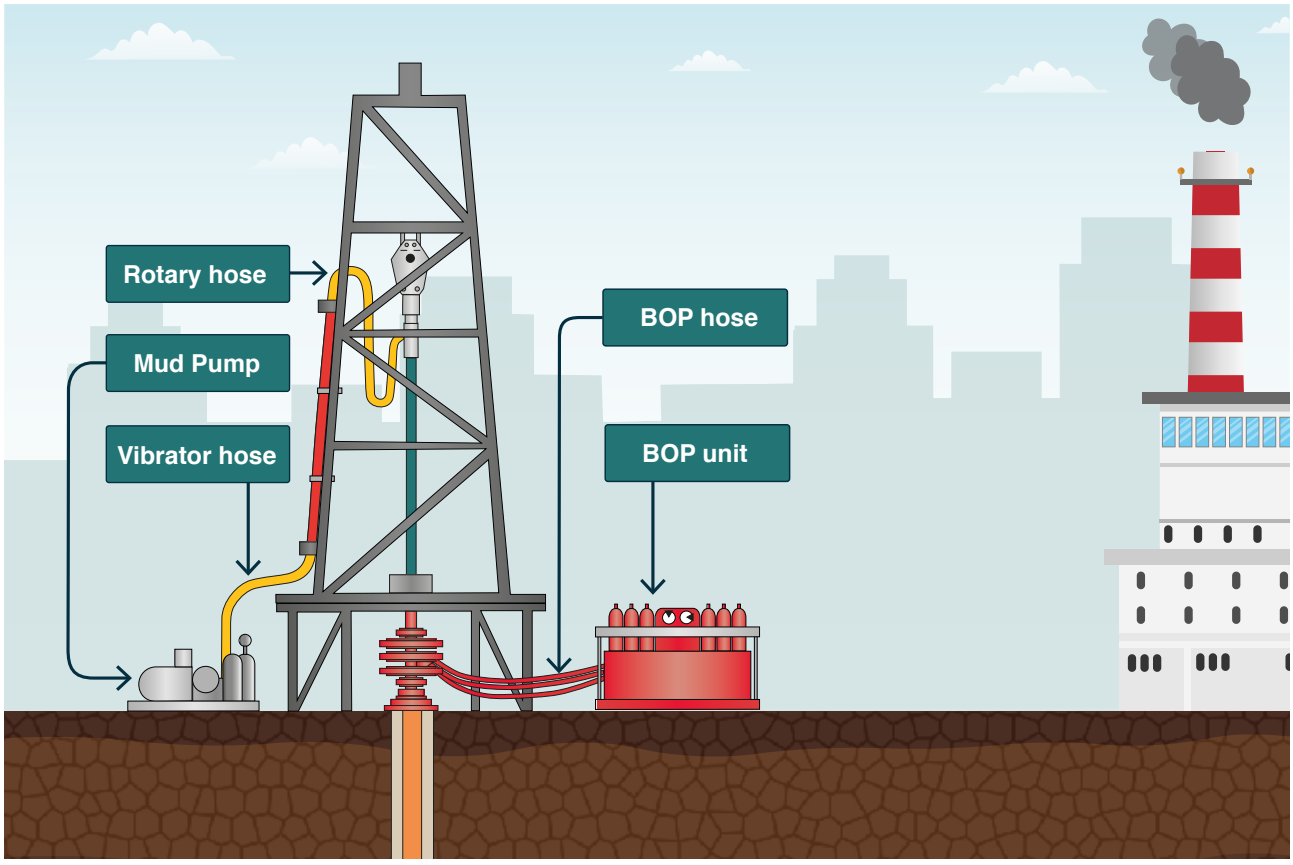
API AUDITOR'S COMMENTS ON ALFAGOMMA:

- // **Strong Quality Management System**
- // Knowledge workforce, working to produce a **High Quality Product**
- // High Management commitment to comply with **API-7K**
- // **Excellent PDCA cycle** and Management review requirements are met to satisfy **API-7K**

// DRILLING APPLICATIONS

Alfagomma Rotary hoses are designed for land and offshore drilling rig applications.

- Robust and highly flexible construction
- Oil and drilling mud resistant synthetic rubber tube
- Multiple layers of spiraled high tensile steel wire reinforcement
- Abrasion, ozone, and hydrocarbon resistant synthetic rubber cover



// DRILLING

// HIFLEX ROTARY & VIBRATOR 5K

Rotary 5.000 psi

API SPEC 7K - Grade D - FSL2

Tube: oil and drilling mud resistant synthetic rubber.
Reinforcement: multiple layers of spiralled high tensile steel wire.
Cover: abrasion, ozone and hydrocarbon resistant synthetic rubber.
Application: Rotary drilling, Vibrator and Motion Compensator.
Temperature: -20 °C +100 °C (-4 °F +212 °F)
Length: 47,25 m (155 ft) max

ID (mm)	ID (in)	OD (mm)	OD (in)	WP (bar)	WP (psi)	TP (psi)	BP (psi)	BR (mm)	Weight (kg/m)	Weight (lb/ft)
51,0	2"	95,0	3,74	345	5000	7500	12500	900	13,060	8,78
63,0	2 1/2"	110,3	4,34	345	5000	7500	12500	900	17,360	11,67
76,0	3"	125,6	4,94	345	5000	7500	12500	1200	19,520	13,12
90,0	3 1/2"	138,3	5,44	345	5000	7500	12500	1400	21,790	14,65
100,0	4"	160,4	6,31	345	5000	7500	12500	1400	34,470	23,17

BR inch: according to API 7K

// HIFLEX ROTARY & VIBRATOR 7.5K

Rotary 7.500 psi

API SPEC 7K - Grade E - FSL2

Tube: oil and drilling mud resistant synthetic rubber.
Reinforcement: multiple layers of spiralled high tensile steel wire.
Cover: abrasion, ozone and hydrocarbon resistant synthetic rubber.
Application: Rotary drilling, Vibrator and Motion Compensator.
Temperature: -20 °C +100 °C (-4 °F +212 °F)
Length: 47,25 m (155 ft) max

ID (mm)	ID (in)	OD (mm)	OD (in)	WP (bar)	WP (psi)	TP (psi)	BP (psi)	BR (mm)	Weight (kg/m)	Weight (lb/ft)
76,0	3"	132,8	5,23	517	7500	11250	18750	1200	26,870	18,06
90,0	3 1/2"	145,5	5,73	517	7500	11250	18750	1400	30,220	20,31
100,0	4"	167,6	6,60	517	7500	11250	18750	1500	41,440	27,85

BR inch: according to API 7K

SWAGED HOSE ASSEMBLY WITH INTEGRAL ONE PIECE HAMMER UNIONS, FLANGES AND MALE API TERMINATIONS

// FLEXOR RIG - SLIM HOLE ROTARY

MSHA

Tube: oil resistant synthetic rubber and biodegradable hydraulic fluid.
Reinforcement: four high tensile steel spirals.
Cover: abrasion, ozone and hydrocarbon resistant synthetic rubber.
Application: Rotary hose for portable, workover and seismograph drilling rigs.
Temperature: -40 °C +121 °C (-40 °F +250 °F)
Length: 61 m (200 ft)
Notes: four spirals construction. Available with male API threaded extra-long hexagon fittings.

ID (mm)	ID (in)	OD (mm)	OD (in)	WP (Mpa)	WP (psi)	BP (Mpa)	BP (psi)	BR (mm)	BR (in)	Weight (kg/m)	Weight (lb/ft)
63,0	2 1/2"	79,0	3,11	22,0	3200	56,0	8000	720	28,35	4,897	3,30
76,0	3"	92,5	3,64	22,0	3200	56,0	8000	840	33,07	5,760	3,88

// FLEXOR RIG - ROTARY

MSHA

Tube: oil resistant synthetic rubber and biodegradable hydraulic fluids.
Reinforcement: six high tensile steel spirals.
Cover: abrasion, ozone and hydrocarbon resistant synthetic rubber.
Application: Rotary hose for portable, workover and seismograph drilling rigs.
Temperature: -40 °C +121 °C (-40 °F +250 °F)
Length: 61 m (200 ft)
Notes: six spirals construction. Available with male API threaded extra-long hexagon fittings.

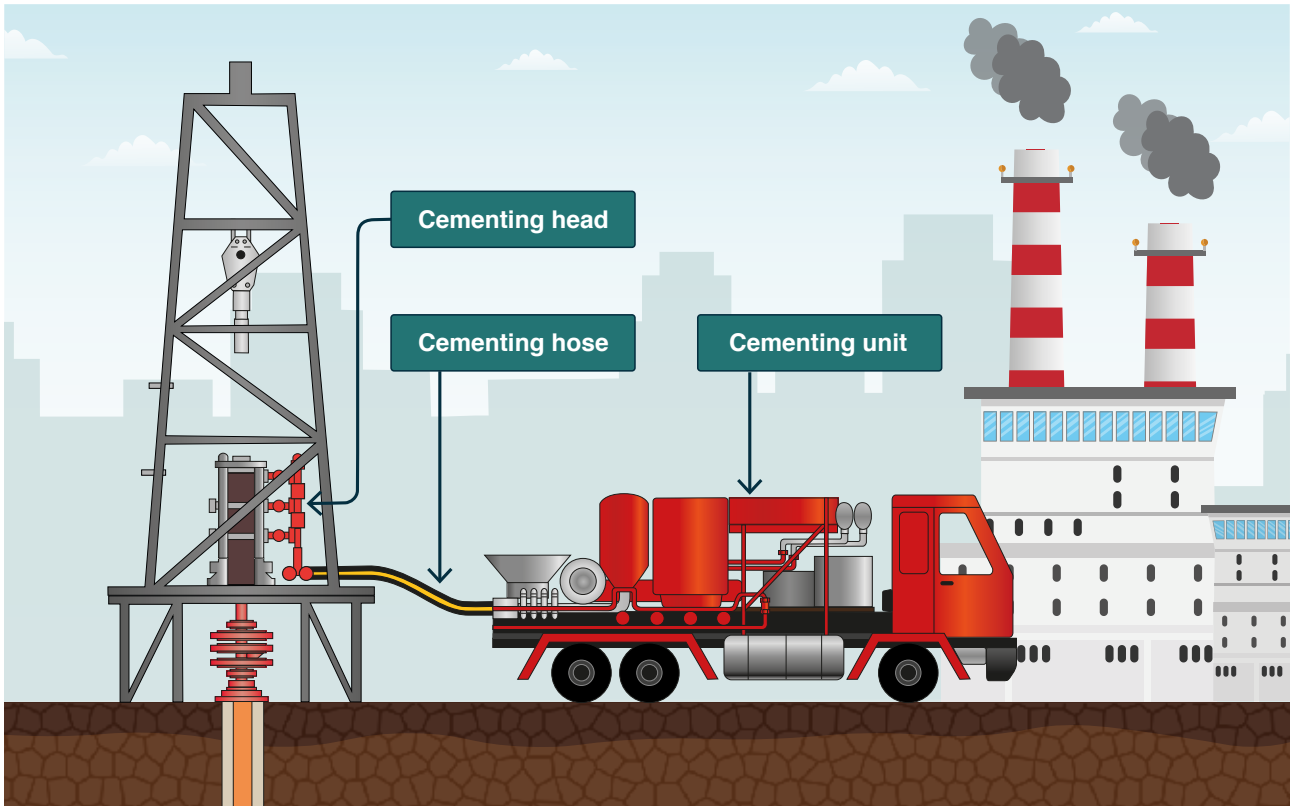
ID (Dash)	ID (mm)	ID (in)	OD (mm)	OD (in)	WP (Mpa)	WP (psi)	BP (Mpa)	BP (psi)	BR (mm)	BR (in)	Weight (kg/m)	Weight (lb/ft)
48	76,0	3"	95,6	3,76	35,0	5000	87,5	12500	900	35,43	7,917	5,33

CRIMPED HOSE ASSEMBLY WITH MALE API TERMINATIONS

// CEMENTING APPLICATIONS

The harsh environmental condition in the drilling fields required high quality products, safety, reliability and durability. Alfagomma Oil well cementing hose assemblies is the solution for cementing operations to connect the high pressure cementing pump to the cementing head.

- High abrasion resistance inner tube special compound.
- Oil well cementing 10K is provided with a Supertuff cover for the most demanding abrasion requirements.
- Easy and faster installation compared to the iron pipe hoses.



// OIL WELL CEMENTIG

// FLEXOR RIG - OIL WELL CEMENTING 5K

MSHA

Cementing 5.000 psi
API Spec 7K - FSL0

Tube: cement, oil and drilling mud resistant synthetic rubber.
Reinforcement: six high tensile steel spirals.
Cover: abrasion, ozone and hydrocarbon resistant synthetic rubber. "Minetuff" cover.
Application: high pressure cement slurry transfer between pump manifold and cementing head.
Temperature: -20 °C +121 °C (-4 °F +250 °F)
Length: 61 m (200 ft) max
Notes: Available with integral Fig. 1502 coupling or API threaded male extra-long hexagon fittings.

ID (mm)	ID (in)	OD (mm)	OD (in)	WP (bar)	WP (psi)	BP (bar)	BP (psi)	BR (mm)	Weight (kg/m)	Weight (lb/ft)
51,0	2"	72,0	2,83	345	5000	863	12500	900	6,561	4,41

BR inch: according to API 7K

// FLEXOR RIG - OIL WELL CEMENTING 10K SUPERTUFF

MSHA

Cementing 10.000 psi
API Spec 7K - FSL0

Tube: cement, oil and drilling mud resistant synthetic rubber.
Reinforcement: six high tensile steel spirals.
Cover: special "Supertuff" cover for excellent abrasion resistance and long service life in heavy duty applications.
Application: high pressure cement slurry transfer between pump manifold and cementing head.
Temperature: -20 °C +121 °C (-4 °F +250 °F)
Length: 61 m (200 ft) max
Notes: Fully API 7K approved when supplied with Alfagomma Integral 2" 1502 Hammer Union couplings.
Also available with API threaded male extra-long hexagon fittings.

ID (mm)	ID (in)	OD (mm)	OD (in)	WP (bar)	WP (psi)	BP (bar)	BP (psi)	BR (mm)	Weight (kg/m)	Weight (lb/ft)
51,0	2"	72,0	2,83	690	10000	1553	22500	900	6,694	4,50

BR inch: according to API 7K

// HIFLEX CEMENTING 10K

Grade Cement 10.000 psi
API SPEC 7K - FSL0

Tube: oil and drilling mud resistant synthetic rubber.
Reinforcement: multiple layers of spiralled high tensile steel wire.
Cover: abrasion, ozone and hydrocarbon resistant synthetic rubber.
Application: high pressure cement slurry transfer between pump manifold and cementing head.
Temperature: -20 °C +100 °C (-4 °F +212 °F)
Length: 47,25 m (155 ft) max

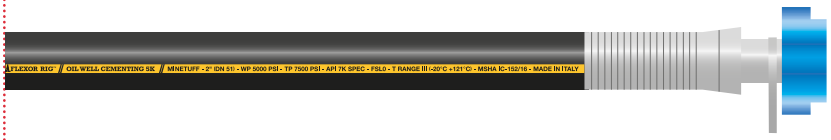
ID (mm)	ID (in)	OD (mm)	OD (in)	WP (bar)	WP (psi)	TP (bar)	BP (psi)	BR (mm)	Weight (kg/m)	Weight (lb/ft)
76,0	3"	135,6	5,34	690	10000	1034	22500	1500	30,400	20,44
90,0	3 1/2"	148,2	5,83	690	10000	1034	22500	1600	33,900	22,79
100,0	4"	171,2	6,74	690	10000	1034	22500	1800	48,000	32,26

BR inch: according to API 7K

// OIL WELL CEMENTING ASSEMBLY

Alfagomma offers a complete range of oil well cementing hose, fittings and accessories specially designed to handle corrosive cement to convey cementing slurries between the cementing pump manifold and the cementig head of the drilling equipment.

The result is an integrated assembly system ABS approved. All hose assemblies are pressure tested to guarantee control and safety during all operations in severe conditions.



ABS

Confirmation of Product Type Approval

Company Name: ALFAGOMMA HYDRAULIC S.P.A.
Address: VIA E. MATTEI 6 I-64020 Italy
Product: Drilling Equipment (Hoses)
Model(s): Cementing Hoses 5K 2" FSL0 T RANGE III 5000 psi Cementing Hoses 10K 2" FSL0 T RANGE III 10000 psi

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	20-2008535-PDA	03-AUG-2020	02-AUG-2025
Manufacturing Assessment (MA)	20-4430198	08-SEP-2020	07-SEP-2025
Product Quality Assurance (PQA)	NA	NA	NA

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Intended Service
Marine and Offshore Application - Hose specially designed to handle corrosive and abrasive cement to convey Cementing Slurries between the Cementing Pump Manifold and the Cementing Head of the Drilling Equipment

Description
Hose Inside Diameter: 2 in.

Construction Tube: Oil and Abrasion Resistant Synthetic Rubber (NBR Rubber Based)
Construction Reinforcement: Six High Tensile Steel Spirals
Construction Cover: Minetuff and Supertuff Cover
Coupling: Crimped Alfagomma H1T Series with Integral 2" FIG. 1502 Hammer Union

Ratings
Cementing Hoses - 5000 psi:

Working pressure: 5,000 psi
Test pressure: 7,500 psi
Burst pressure: 12,500 psi
Temperature range III: -20 °C to 121 °C (-4°F to +250 °F)

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HOSE

Cement, oil and drilling mud resistant synthetic rubber.
Six high tensile steel spirals.
Special "Supertuff" cover for excellent abrasion, resistance and long service life in heavy duty applications.
MSHA APPROVED.
API 7K approved when supplied with Alfagomma Integral 2" Fig 1502 Hammer Union couplings.

FITTINGS

Specially designed to meet the severe condition of cementing operations.
Integral Hammer Union Fig 1502.

// H1T1281Z
API Male

// H1T13F13
Male Hammer Union Fig. 1502 integral fitting with Lug Nut

// H1T23F10
Female Hammer Union Fig. 1502 integral fitting with Rubber Ring

HEADQUARTER
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