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Constant Pressure. Continuous Innovation.



MegaSys® Hose + Couplings

MAXIMIZE FLOW RATE + POWER

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HOW IT WORKS

MegaSys HOSE PRESSURE COLOR KEY

Distinctive design and pressure color coding make MegaSys hoses easy to identify in stock and in service.



Hydraulic hose assemblies are engineered for extreme requirements. But their laylines don't have to be complicated. A simple formula will suffice: Description + Icons + Specs = everything you need to know.

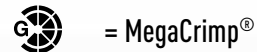


Hose Description •

- Blue** = 3000 psi
- 8** = I.D.
- M** = MegaSys half-bend radius
- 3K** = 3000 psi

Coupling Icons

WIRE-BRAID HOSE

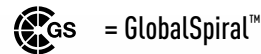


M3K, M4K, M5K and M6K

- > Braided high-tensile steel wire
- > Nitrile tube for use with biodegradable hydraulic fluids
- > Tested to industry-leading 600,000 cycles
- > Temperature range -40°F to +212°F (-40°C to +100°C)
- > Extreme temperature versions available
- > Available with abrasion-resistant XtraTuff™ or MegaTuff® covers



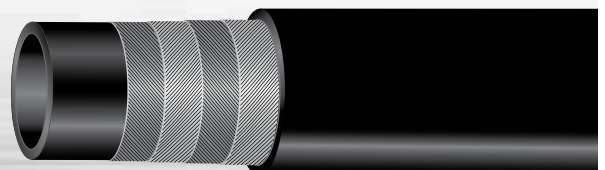
SPIRAL-WIRE HOSE



EF33K, EF34K, EF35K, EF36K and G8K



- > Four to six alternating layers of spiraled, high tensile steel
- > Nitrile tube for use with biodegradable hydraulic fluids (Chlorprene for G8K)
- > Tested to industry-leading 1,000,000 impulse cycles
- > Temperature range -40°F to +250°F (-40°C to +121°C)
- > Extreme temperature versions available
- > Available with abrasion-resistant MegaTuff cover



Gates delivers peak performance and flexibility to the hydraulic industry by integrating **MegaSys®** spiral-wire and wire-braid hoses with Gates coupling products for the ultimate hydraulic system.



Performance Specifications

The charts below highlight just how good Gates MegaSys hoses are. Not only is there a broad assortment of sizes and pressures, they all exceed SAE and EN performance requirements.

SAE SPECIFICATIONS

PSI	I.D.	-4	-5	-6	-8	-10	-12	-16	-20	-24	-32	
3,000	SAE 100R1					SAE 100R2			SAE 100R12			
	M3K*					M3K*			EFG3K			
4,000	SAE 100R1			SAE 100R2			SAE 100R12					
	M4K**			M4K*/EFG4K			M4K*/EFG4K			EFG4K		
5,000	SAE 100R2				SAE 100R13							
	M5K				M5K/EFG5K			EFG5K				
6,000	SAE 100R2		SAE 100R12									
	M6K		EFG6K									
8,000						SAE 100R15						
						G8K						

* Exceeds SAE 100R17

** Exceeds SAE 100R19

EUROPEAN NORM (EN) SPECIFICATIONS

MPa	I.D.	-4	-5	-6	-8	-10	-12	-16	-20	-24	-32
21.0	1SN/1SC					2SN/2SC			4SP		
	M3K					M3K			EFG3K		
28.0	1SN/1SC			2SN/2SC			4SP				
	M4K			M4K/EFG4K			M4K/EFG4K			EFG4K	
35.0	1SN/1SC		2SN/2SC		4SP				4SH		
	M5K		M5K		M5K/EFG5K			EFG5K		EFG5K	
42.0	2SN/2SC		4SP				4SH				
	M6K		EFG6K				EFG6K				
56.0						4SH					
						G8K					

ISO 18752

Released in 2006, ISO 18752 expands on SAE J517, specifying requirements for wire- or textile-reinforced hydraulic hoses with a single maximum working pressure for all sizes in each class. Hoses are classified into four grades according to their resistance to impulse.

Gates MegaSys hoses exceed both the SAE specifications and the performance matrix requirements of ISO 18752:

GRADE	3,000 PSI	4,000 PSI	5,000 PSI	6,000 PSI
	A	M3K	M4K	M5K
B	M3K	M4K	M5K	M6K
C	M3KH	M4KH	EFG5K	EFG6K
D	EFG3K	EFG4K	EFG5K/ID5K	EFG6K*

*-12 only, other sizes under qualification



ENGINEERED SOLUTIONS

The hose-coupling interface is the key to safe hydraulics and is stronger than any individual component in an assembly.

From selecting the parts to the final crimp O.D., and everything in between, the interface is the secret sauce that keeps equipment running and workers safe.

Gates believes in safe, reliable, foolproof components that mitigate the risk associated with hydraulic assemblies. Our hose, couplings and crimpers are qualified as a system so there's no guessing about proper fabrication.



MegaCrimp® COUPLINGS

It's what's inside the preassembled MegaCrimp coupling that gives it world-class, leak-proof performance. The patented "C" insert, attached to the ferrule, accommodates hoses of different constructions and wall thicknesses.



- > Ensures crimping forces are evenly distributed to form a concentric seal
- > One MegaCrimp coupling size accommodates multiple hose diameters, simplifying inventory requirements
- > Works on both one- and two-wire braid hydraulic hoses



GlobalSpiral® COUPLINGS

GlobalSpiral couplings are engineered to provide superior performance for extreme high pressure, high impulse hydraulic applications and can be used with all Gates MegaSys® spiral-wire hoses up to 8,000 psi.



- > Innovative, two-piece, no-skive design
- > Reduces assembly time, labor, fabrication error and contamination
- > Reduces parts inventory by 30% since only one stem is required for all spiral-wire hose types

Full-Torque Nut™ TECHNOLOGY

One of the most common causes of hydraulic leaks is a cracked coupling nut or seat due to over-torquing. With Gates Full-Torque Nut couplings, a large holding shoulder evenly distributes stress forces at the nut for higher resistance against cracking, even when inadvertently over-torqued, for a stronger and more durable fitting.

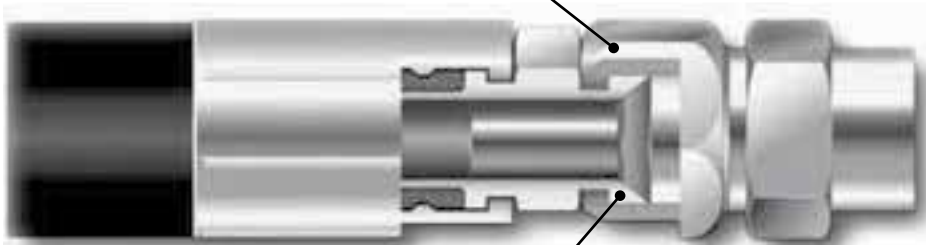
- > NO INSTALLATION LEAKS
- > LESS TIME SPENT RETIGHTENING CONNECTIONS
- > NO MORE CRACKED NUTS

Increase equipment uptime by eliminating damaged couplings and leaks from too much torque.

OVER-TORQUE PROTECTION

STANDARD ON ALL GATES MEGACRIMP AND GLOBALSPIRAL COUPLINGS

Gates robust swivel joint allows for maximum torque



Up to 24,000 psi burst pressure (-16 size G6K)

Common competitor's staked nut provides less burst pressure protection



Swivel joint sensitive to over-torquing

FIT EVERY DEMAND	 	
	1-PIECE	2-PIECE
CONSTRUCTION	1-PIECE	2-PIECE
USE	WIRE-BRAID	SPIRAL-WIRE
SAE IMPULSE CYCLE PERFORMANCE	✓	✓
FLEX IMPULSE PERFORMANCE	400,000	1,000,000
COVER TYPES	STANDARD, MTF, XTF	STANDARD, MTF, XTF
BITE THE WIRE	✓	✓
INVENTORY OPTIMIZATION	✓	✓
NORTH AMERICAN THREADS	✓	✓
INTERNATIONAL THREADS	✓	✓
ILOK™	✓	✓
QUICK-LOK™	✓	✓
FULL-TORQUE NUT	✓	✓
QUALIFIED ON WIRE-BRAID HOSE	✓	✓
QUALIFIED ON INDUSTRIAL HOSE	✓	✓
TUFFCOAT™ XTREME® PLATING	✓	CONTACT GATES



PROTECT YOUR INVESTMENT

Nothing is harder on hydraulic hose covers than constant abrasion. Rubbed against metal or other hose, most standard hydraulic hoses – even ones with spring guards or nylon sleeving – can't take the punishment.

There's no industry standard for hose cover performance. Historically, Gates leads the pack in establishing engineering specs, and hose covers are no exception.

JUDGE US BY OUR COVERS



MegaTuff®

Gates MegaTuff hoses are exceptionally resistant to abrasion. The specially bonded cover stays put and won't peel as some competitive hose covers do.

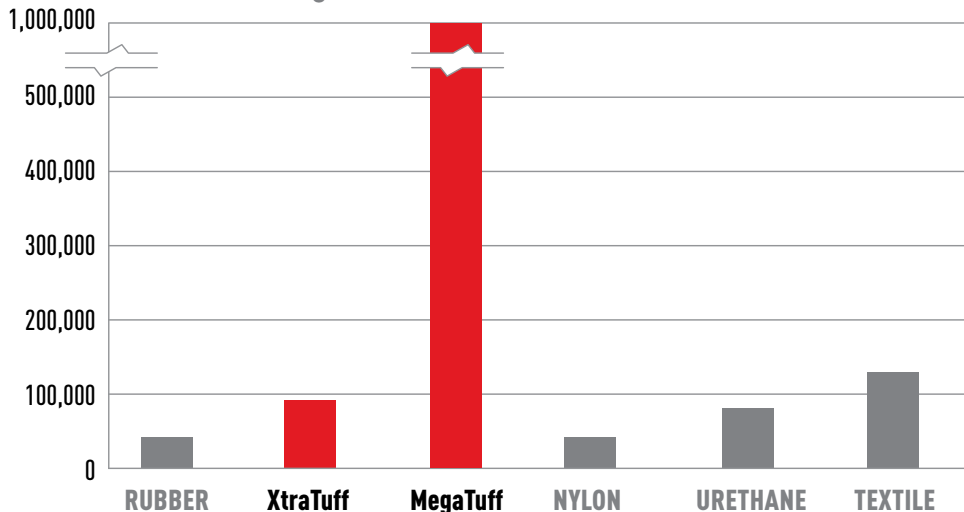
- > Maintain flexibility and minimum bend radius
- > Resistant to oil, ozone and UV rays
- > Tested to 1,000,000 impulse cycles without failure

XtraTuff®

Made of special hybrid compounds, Gates XtraTuff covers are versatile, flexible and easy to manage.

- > Increase service life
- > Lower maintenance
- > Eliminate the need for costly hose protectors

Abrasion Testing



TuffCoat[®]

All Gates couplings are protected, at the minimum, with TuffCoat plating. In salt spray tests, TuffCoat plating resisted red rust formation for 500 hours. That's nearly 600% greater than the SAE 72-hour standard and 561% greater than the 96-hour OE industry standard.

The Gates TuffCoat plating shows no red rust formation. White patches on couplings are salt residue, not corrosion.



EXCEED SAE STANDARDS BY 600 to 1,000%

Just as hoses need a rubber cover to protect the metal reinforcement inside, hydraulic couplings need plating to prevent deterioration of the metal. When hydraulic fittings begin to rust, the base metal is eaten away by oxidation, eventually damaging the hydraulic system in several ways:

- > Contaminating hydraulic fluids
- > Compromising fitting connections and adjacent components
- > Creating leak paths
- > Making maintenance more difficult

TuffCoat[™] Xtreme[®]

TuffCoat Xtreme offers an extra measure of protection – 840 hours of red rust corrosion resistance. That's over 1,000% greater than both the 72-hour SAE standard and the 96-hour industry standard.

- > For extremely corrosive environments, specifically those where salt and liquid fertilizer are used
- > Plating of choice for specialized mining applications
- > Extend the life of the assembly to decrease downtime and maintenance



CONSTANT PRESSURE. CONTINUOUS INNOVATION.

The hydraulic industry is already complex – extreme pressure, high risk and tough applications. Yet budgets are getting tighter while performance expectations are increasing. At what point do you ask yourself if sacrificing production for perceived savings with cheaper, lower performing products is worth the risk?

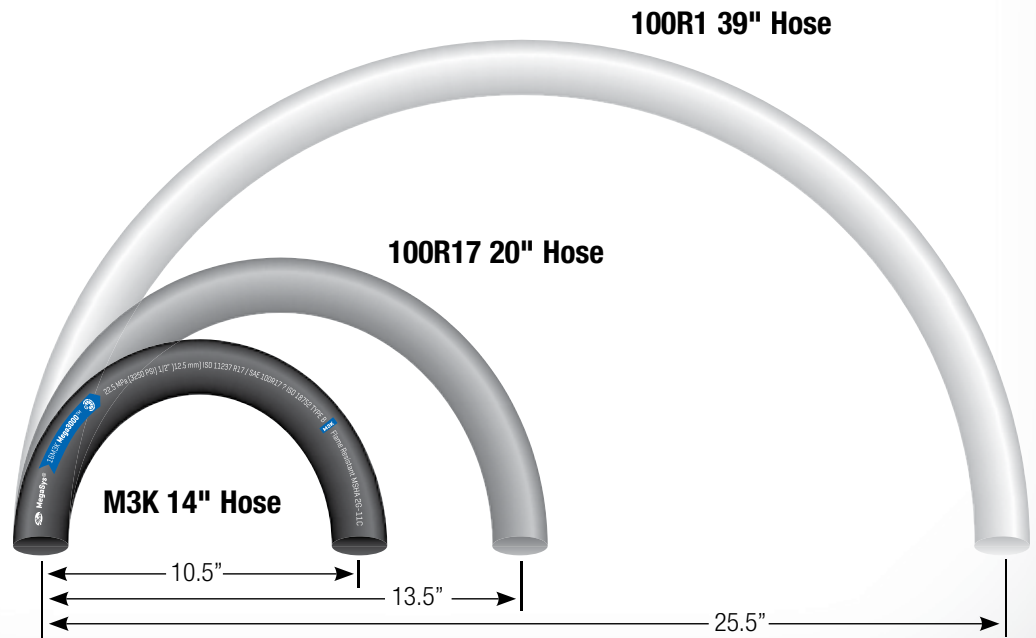
At Gates, we don't think it is. And our customers agree. Take this example:

- > **The challenge:** increase production by decreasing downtime due to hose failure
- > **The solution:** convert assemblies to Gates MegaSys® with MegaTuff™ cover
- > **The bottom line:** 37% reduction in downtime and 25% fewer hose failures

Gates is constantly innovating, constantly improving, constantly pushing boundaries. So it should come as no surprise that our industry-leading MegaSys constant pressure hoses have been setting the hydraulic standard, increasing production and reducing overall spend since the 1980s.

REDUCE
COST
BY

64%



Up to One-Third SAE Bend Radius Specification

Illustration of 16M3K hose flexibility and reduced hose length requirements



POWERING PROGRESS™

