MEGASYS® HOSE AND COUPLINGS

CONSTANT PRESSURE. CONTINUOUS INNOVATION.

MAXIMIZE FLOW RATE + POWER

HOSE IDENTIFICATION: HOW IT WORKS

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. 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 performance hydraulic system.

GATES MEGASYS HOSE PRESSURE COLOR KEY

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

HOSE DESCRIPTION

Blue = 3,000 psi

8 = I.D.

M = MegaSys ½ bend radius or tighter

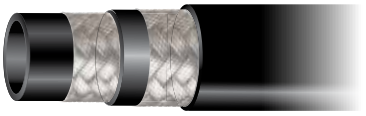
3K = 3000 psi working pressure

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

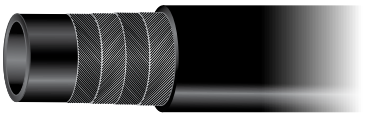


G = MegaCrimp®

SPIRAL-WIRE HOSE

EFG3K, EFG4K, EFG5K, EFG6K and G8K

- Four or 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



GS = GlobalSpiral™

GSP = GlobalSpiral™ Plus™

GSM = GlobalSpiral™ MAX Pressure

Gates' isobaric approach to pressure ratings makes it easy to select hoses that meet system requirements based on pressure and temperature.

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

* Exceeds SAE 100R17 ** Exceeds SAE 100R19

EUROPEAN NORM (EN) SPECIFICATIONS

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

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

GRADE	3,000 PSI	4,000 PSI	5,000 PSI	6,000 PSI
A	M3K	M4K	M5K	M6K
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.

COUPLINGS

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 errors 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 and cracks

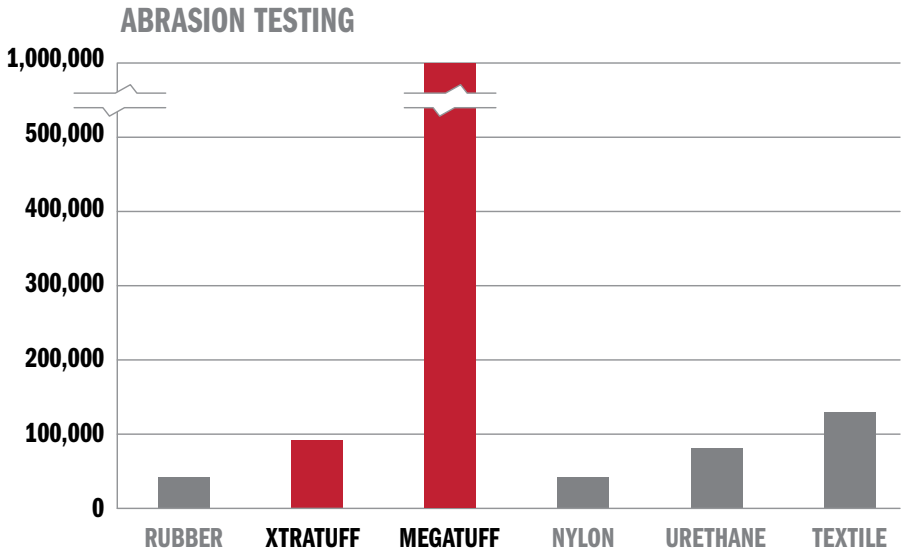
FIT EVERY DEMAND	G	GS
CONSTRUCTION	1-PIECE	2-PIECE
USE	WIRE-BRAID	SPIRAL-WIRE
SAE IMPULSE CYCLE PERFORMANCE	✓	✓
FLEX IMPULSE PERFORMANCE	600K	1,000,000
COVER TYPES	STANDARD, MTF, XTF	STANDARD, MTF, XTF
BITE THE WIRE	✓	✓
INVENTORY OPTIMIZATION	✓	✓
NORTH AMERICAN THREADS	✓	✓
INTERNATIONAL THREADS	✓	✓
ILOK™	✓	✓
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 their flexibility and minimum bend radius
- Resistant to oil, ozone and UV rays
- Tested to 1,000,000 abrasion cycles without failure

XTRATUFF®

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

- Increasing service life
- Lowering maintenance
- Eliminating the need for costly hose protectors

EXCEEDS SAE STANDARDS BY 350 TO 600%

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

840 HOURS OF RED RUST CORROSION RESISTANCE

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 350% greater than the SAE 144-hour standard.

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

TUFFCOAT™ XTREME®

TuffCoat Xtreme offers an extra measure of protection – 840 hours of red rust corrosion resistance. That's over 600% greater than both the 144-hour SAE standard.

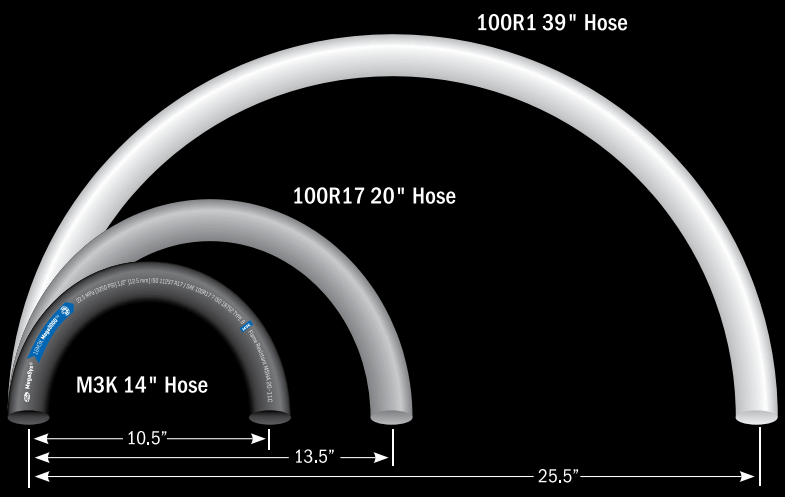
- For use in extremely corrosive environments, specifically those where salt and liquid fertilizer are used
- Plating of choice for specialized mining applications
- Extend the life of the assembly to decrease downtime and maintenance

REDUCE COST BY 64%

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: 64% less hose cost when taking advantage of the reduced bend radius, 37% reduction in downtime and 25% fewer hose failures



Up to One-Third SAE Bend Radius Specification

Illustration of 16M3K hose flexibility and reduced hose length requirements

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.

SEE GATES.COM FOR ADDITIONAL PRODUCTS FROM GATES

GATES CORPORATION
1551 Wewatta Street
Denver, CO 80202
(303) 744-1911