



LIFEGUARD™

THERE'S A BETTER WAY TO PROTECT
AGAINST HYDRAULIC HOSE FAILURE

There's a better way to protect against hydraulic hose failure

LIFEGUARD™ LINE-OF-SIGHT SLEEVING SYSTEM

PROTECTS EQUIPMENT OPERATORS AGAINST CATASTROPHIC HYDRAULIC HOSE FAILURE

A burst or pinhole leak in a hydraulic system can cause serious problems – especially for anything or anyone located within a one-metre line-of-sight. Personal injury. Fluid burns and injection. Fires and explosions. Electrical shock. Mechanical failure. The cost to a company is typically in the hundreds of thousands of dollars after all direct and indirect costs are considered.

Now, Gates has engineered the first sleeving system specifically designed to protect operators, equipment and the environment from the hazards of catastrophic hydraulic hose failure – a level of protection previously unavailable.

The LifeGuard™ line-of-sight sleeving system [patent pending] is an effective, economical alternative to costly metal shielding or re-routing of hose lines. And it does not affect system performance.

- > Contains bursts:
 - LG3K – up to 6,000 psi [41.4 MPa]
 - LG4K – up to 8,000 psi [55.2 MPa]
 - LG5K – up to 10,000 psi [68.9 MPa]
- > Controls pinhole leaks:
 - LG3K – up to 3,000 psi [20.7 MPa] at 100°C [212°F] for up to five minutes
 - LG4K – up to 4,000 psi [27.6 MPa] at 121°C [250°F] for up to five minutes
 - LG5K – up to 5,000 psi [34.5 MPa] at 121°C [250°F] for up to five minutes
- > Handles all hydraulic fluids and biodiesel fuel
- > Allows fluid to safely escape down the length of the assembly
- > Creates noticeable spill for hose failure detection
- > Correlates to ISO 3457 and meets MSHA's flame-resistance requirements
- > No other sleeve provides this level of protection
- > Patent pending system includes Gates hose, couplings, sleeve and channel clamps



HOW THE SYSTEM WORKS

The LifeGuard™ sleeve is slipped onto the hose and clamped at each end. If a hose burst or pinhole leak occurs, escaping pressures and fluids are contained by the exceptionally strong sleeve material. Fluids then exit the system via openings created by the specially designed channel clamps at each end. A noticeable pool of leaking fluid serves as positive verification that a failure has occurred so corrective action can be taken immediately to replace the hose assembly.

LIFEGUARD™ SLEEVING CONSTRUCTION

LifeGuard™ sleeving is available in LifeGuard™ 3000, LifeGuard™ 4000 and LifeGuard™ 5000 configurations. The key to the unmatched protection provided by the LifeGuard™ sleeve is multiple layers of super-strong nylon material. Separate from one another, the layers are able to slide and move independently to control hydraulic failures.

The inner layer material is specially designed, engineered and manufactured. It is made of tightly woven filament nylon. This is the strength-bearing material of the LifeGuard™ sleeve which controls the sudden pressure release of hydraulic bursts and pinhole leaks.

The outer layer of LifeGuard™ sleeving is a textured nylon material that further helps to contain escaped fluids and directs it to the ends of the hose for release. It also resists abrasion and other external hazards.

THE CHANNEL CLAMP

Designed specifically for the LifeGuard™ sleeving system, this unique clamp securely fastens the sleeve at each end of the hose. In the event of hose failure, the escaping fluids are allowed to safely seep out the ends of the hose via two channels on opposite sides of the clamp. Fluids pool under the clamp locations to provide positive verification that a failure has occurred.

Gates offers special LifeGuard™ channel clamp die sets for GC™32-XD, GC32Tsi, Power Crimp® 707 and FP120 crimpers. In addition, a LifeGuard™ Guide Table [PN 7484-1600] and Hose Bullet Set [PN 7482-1604] are offered to measure, cut and install sleeving, making assembly fabrication fast and easy.



LifeGuard™ Sleeving



LIFEGUARD™ SLEEVE



During 5,000 psi [34.5 MPa] pinhole leak tests, LifeGuard™ sleeving controlled and redirected fluid while unsleeved hoses allowed high-pressure spraying of fluids in the immediate vicinity of the leak.

HOSE ONLY



LIFEGUARD™ SLEEVE



The LifeGuard™ sleeve contained and effectively redirected fluid during 10,000 psi [68.9 MPa] burst tests while hoses without sleeving exploded, releasing a large amount of fluid in the immediate area.

HOSE ONLY



RIGOROUS TESTING

The innovative LifeGuard™ sleeve was rigorously tested both in the lab and in the field to verify its performance and capabilities at typical fluid pressure and temperature levels. While there are no current industry regulations published for this type of product, Gates testing program may be part of an effort to establish future standards for end-user applications.

IN LINE WITH INDUSTRY STANDARDS

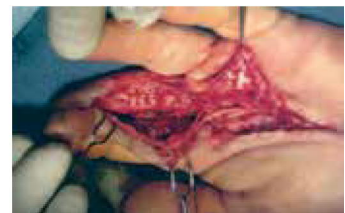
LifeGuard™ sleeving correlates to a variety of industry standards, including ISO 3457 and MSHA's fire-resistance requirements.

ISO 3457 – Meets the intent of ISO 3457 that requires operator protection within a one-metre line-of-sight of any hose conveying fluid above 725 psi [5.0 MPa] at +49°C [+120°F].

THE NEED FOR LIFEGUARD™ SLEEVING

Physical injury is only the tip of the iceberg in a catastrophic hydraulic hose failure accident. Costs incurred by a company can include:

- > Direct medical expenses
- > Injured worker wages during recuperation
- > Replacement worker wages
- > Overtime wages
- > Loss of production
- > Management/supervision time
- > Training costs
- > Legal expenses
- > Court costs and fines
- > Insurance premium increase
- > Equipment repair and downtime
- > Environmental cleanup and fines



According to OSHA's Safety Pays Program calculations, the combination of laceration and vascular injuries typically cost a company a total of \$150,598. A significant volume of additional sales would be required to recoup this loss for any business. And these figures do not include costs for possible equipment repair or replacement, ancillary damage, environmental cleanup or legal issues resulting from a catastrophic hydraulic hose failure.

For more information on the LifeGuard™ line-of-sight sleeving system and the unmatched level of safety and protection it offers, contact your Authorised Gates distributor, your local Gates representative or visit www.GatesAustralia.com.au/lifeguard

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LIFEGUARD™ LINE-OF-SIGHT SLEEVING SYSTEM

LIFEGUARD™ SLEEVING PRODUCT MATRIX

Hose Size (in.) (mm)		Sleeving Type	Sleeving Description	Sleeving Part Number	Aluminum Clamp Collar Description	Aluminum Clamp Collar Part Number	Stainless Steel Clamp Collar Description	Stainless Steel Clamp Collar Part Number	LG Die Set (GC32XD, PC707, FP120)
1/4	6.3	LifeGuard 3000	14LG3K	7277-1850	6SC-4	7334-4848	6SC-4SS	7334-48535	3234
3/8	9.5	LifeGuard 3000	16LG3K	7277-1851	6SC-4	7334-4848	6SC-4SS	7334-48535	3335
1/2	12.5	LifeGuard 3000	20LG3K	7277-1852	8SC-4	7334-4864	8SC-4SS	7334-48545	3436
5/8	15.9	LifeGuard 3000	22LG3K	7277-1853	10SC-4	7334-4858	10SC-4-SS	7334-48605	3537
3/4	19.1	LifeGuard 3000	26LG3K	7277-1854	12SC-4	7334-4859	12SC-4-SS	7334-48615	3638
1	25.4	LifeGuard 3000	32LG3K	7277-1855	16SC-4	7334-4865	16SC-4-SS	7334-48665	38311
1/4	6.3	LifeGuard 4000	14LG4K	7277-1960	6SC-4	7334-4848	6SC-4SS	7334-48535	3234
3/8	9.5	LifeGuard 4000	16LG4K	7277-1961	6SC-4	7334-4864	6SC-4SS	7334-48535	3335
1/2	12.5	LifeGuard 4000	20LG4K	7277-1962	8SC-4	7334-4864	8SC-4SS	7334-48545	3436
5/8	15.9	LifeGuard 4000	22LG4K	7277-1963	10SC-4	7334-4858	10SC-4-SS	7334-48605	3537
3/4	19.1	LifeGuard 4000	26LG4K	7277-1964	12SC-4	7334-4859	12SC-4-SS	7334-48615	3638
1	25.4	LifeGuard 4000	32LG4K	7277-1965	16SC-4	7334-4865	16SC-4-SS	7334-48665	38311
1/4	6.3	LifeGuard 5000	14LG5K	7277-1950	6SC-4	7334-4848	6SC-4SS	7334-48535	3234
3/8	9.5	LifeGuard 5000	16LG5K	7277-1951	6SC-4	7334-4864	6SC-4SS	7334-48535	3335
1/2	12.5	LifeGuard 5000	20LG5K	7277-1952	8SC-4	7334-4864	8SC-4SS	7334-48545	3436
5/8	15.9	LifeGuard 5000	22LG5K	7277-1953	10SC-4	7334-4858	10SC-4-SS	7334-48605	3537
3/4	19.1	LifeGuard 5000	26LG5K	7277-1954	12SC-4	7334-4859	12SC-4-SS	7334-48615	3638

NOTE: Crimp settings are available at www.gates.com/ecrimp

LIFEGUARD™ DIE SET MATRIX

Hose Size (in.) (mm)		LifeGuard Size	LG Die Set	PC707 LG Die Set Part Number	GC32XD LG Die Set Part Number	FP120 LG Die Set Part Number
1/4	6.3	14LG3K, 14LG4K, 14LG5K	3234	7482-1424	7482-1419	7482-1406
3/8	9.5	16LG3K, 16LG4K, 16LG5K	3335	7482-1425	7482-1420	7482-1405
1/2	12.5	20LG3K, 20LG4K, 20LG5K	3436	7482-1426	7482-1421	7482-1415
5/8	15.9	22LG3K, 22LG4K, 26LG5K	3537	7482-1427	7482-1430	7482-1440
3/4	19.1	26LG3K, 26LG4K, 26LG5K	3638	7482-1428	7482-1431	7482-1441
1	25.4	32LG3K, 32LG4K	38311	NA	7482-1443	7482-1442

NOTE: Crimp settings are available at www.gates.com/ecrimp

HOSE COMPATIBILITY

The LifeGuard™ sleeves are compatible with the following Gates hoses up to 5,000 psi (34.5 MPa):

EFG4K
EFG4K-MTF
EFG5K
EFG5K-MTF
G1
G1H
G2
G2AT-HMP
M2T
M2T-MTF
M2T Plus
M2T Plus-MTF
M3K
M3K-XTF
M3K-MTF
M3KH
M4K
M5K
M500
M500-XTF
M500-MTF
TH7
TH7NC
TH8
TH8NC
TH18
TR500



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POWERING PROGRESS™



Warning

All hydraulic hose assemblies have a limited life on a given application. Assuming the correct hose has been selected, this service life can be adversely affected by factors including external abuse, excessive pressures, high temperatures, misapplication and internal abrasion. Should a hose assembly fail during use, serious injury or destruction of property could result from propelled couplings, whipping hose, high pressure or high velocity discharge, chemical contact, high temperature materials, explosion or fire. Contact Gates Product Application for assistance and hose recommendations on specific applications and any acid-chemical application above +52°C (+125°F). Due to continual product improvements, Gates reserves the right to alter specs and prices without prior notice.

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Scan the QR code to access the Gates Australia website.