



# MEET MXT

THE NEXT GENERATION OF PREMIUM HYDRAULICS







## WHAT TO EXPECT?

2

- Introducing MXT
- A customer-oriented innovation
- Unique advantages
- Innovation fueled by materials science
- Market fit
- Support tools







# INTRODUCTION

THE NEXT GENERATION OF PREMIUM HYDRAULICS







improve assembly speed



improve ergonomics



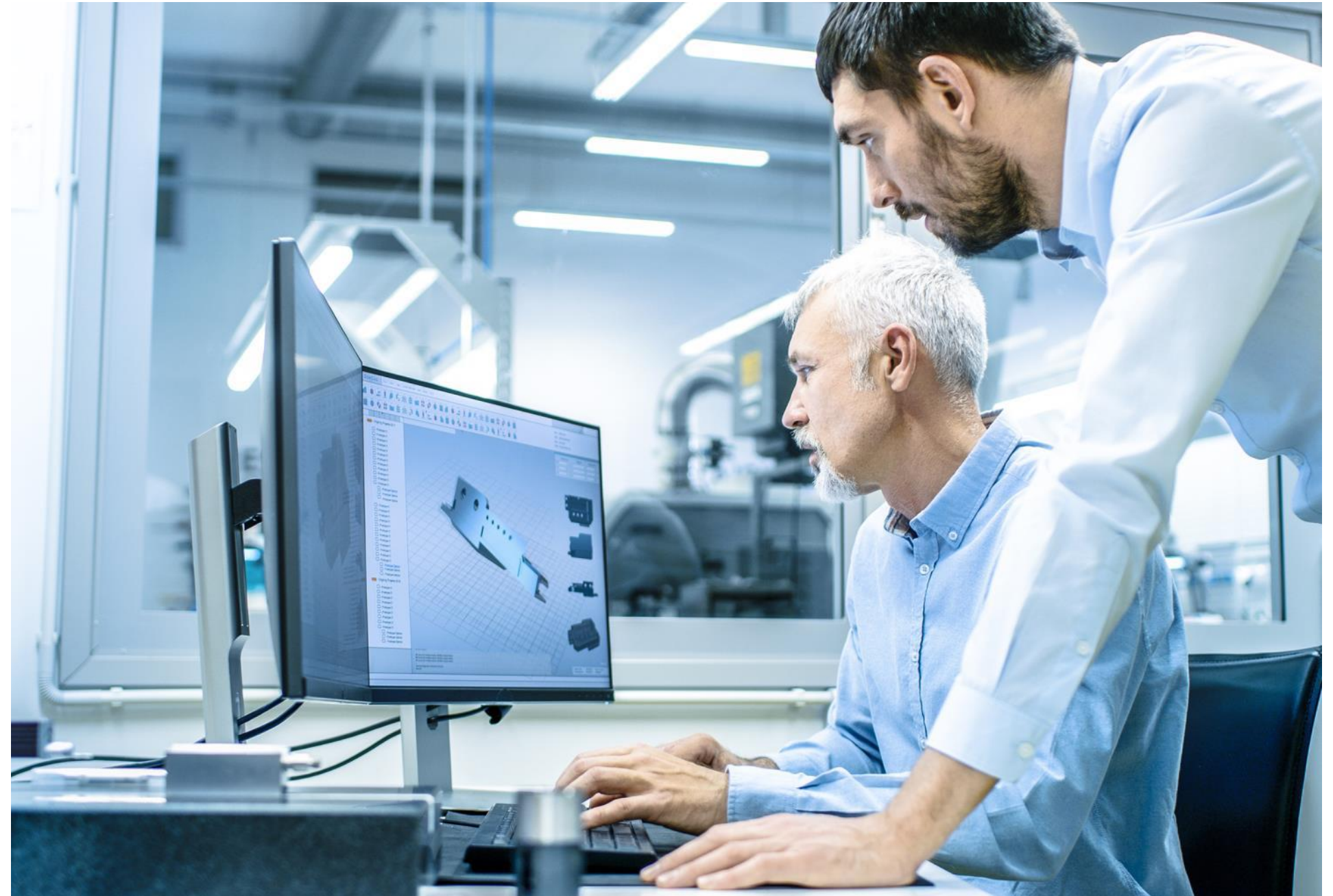
time saving solutions



fuel saving solutions



reduce logistical costs







- ✓ **a customer-oriented innovation**
- ✓ **with a lighter weight**
- ✓ **and a higher flexibility**
- ✓ **within our premium range**
- ✓ **and great performance**







**MXT**

A CUSTOMER-ORIENTED INNOVATION



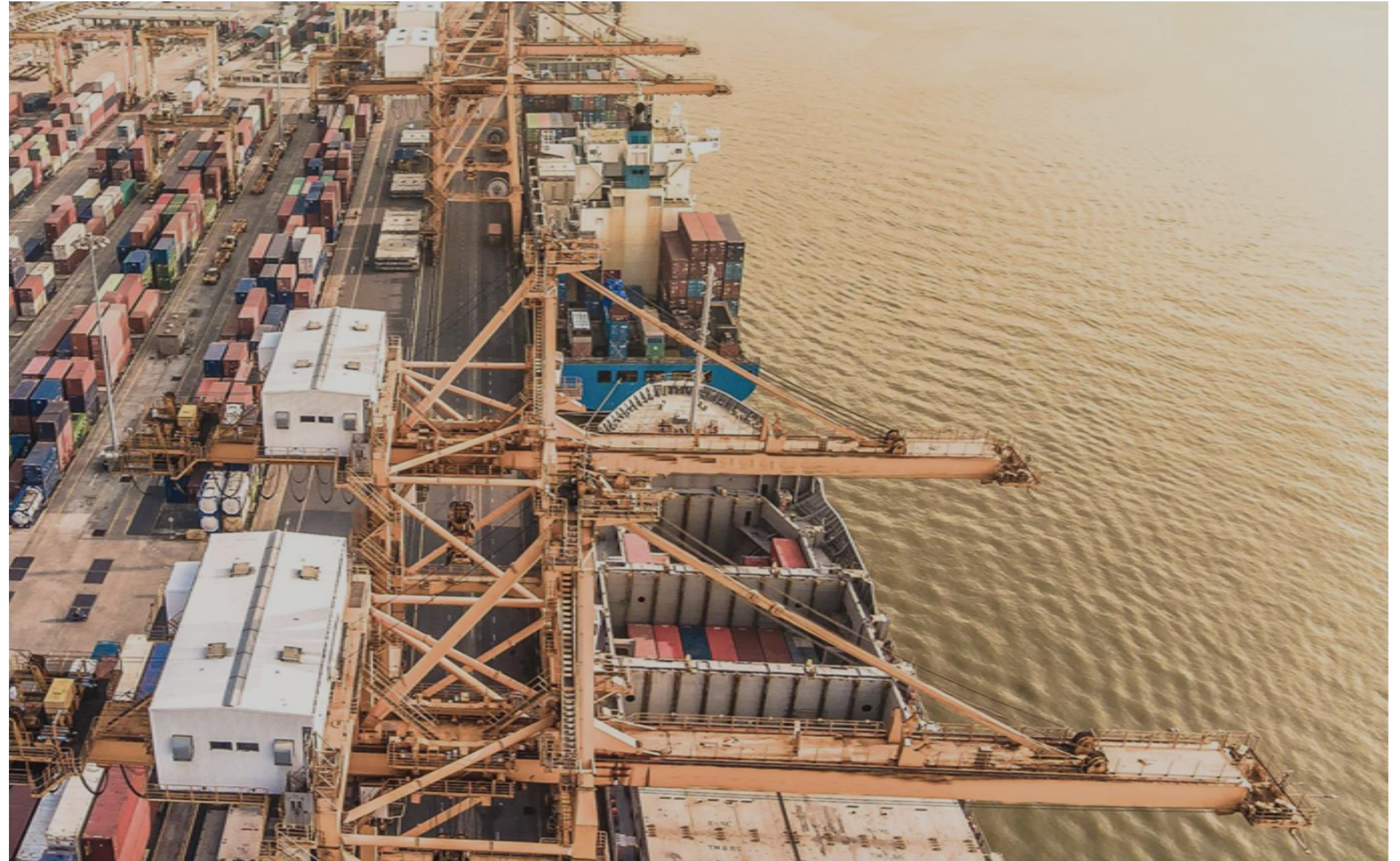




## WIRE BRAID MARKET



90% MARKET  
COVERAGE







## WIRE BRAID MARKET



**90% MARKET  
COVERAGE**



### PERFORMANCE ACCORDING TO INTERNATIONAL STANDARDS

EN 857 2SC / 1SC

EN 853 2SN / 1SN

SAE 100R1 / R2 / R16

SAE 100R17 (up to -12)

SAE 100R19 (up to -08)





WIRE BRAID  
MARKET



90% MARKET  
COVERAGE



PERFORMANCE ACCORDING TO  
INTERNATIONAL STANDARDS  
COMPARISON TO EN 857 2SC

Size			Working Pressure (MPa)			MBR (mm)			Impulse (k-cycles)		
-	DN	"	MXT	EN 857 2SC	CM2T	MXT	EN 857 2SC	CM2T	MXT	EN 857 2SC	CM2T
-04	6	1/4	40.0	40.0	40.0	50	75	50	600	200	600
-05	8	5/16	35.0	35.0	35.0	55	85	55	600	200	600
-06	10	3/8	33.0	33.0	33.0	65	90	65	600	200	600
-08	12	1/2	27.5	27.5	27.5	70	130	90	600	200	600
-10	16	5/8	25.0	25.0	25.0	75	170	100	600	200	600
-12	19	3/4	21.5	21.5	21.5	120	200	120	600	200	600
-16	25	1	16.5	16.5	16.5	150	250	150	600	200	600





**MXT**  
UNIQUE ADVANTAGES







## MXT UNIQUE ADVANTAGES | **WEIGHT REDUCTION**

11



**MXT  
ADVANTAGE**



**WEIGHT  
REDUCTION**







## MXT ADVANTAGE



## WEIGHT REDUCTION



### IMPACT

This next generation hose **weighs less** and supports **equipment weight reduction trends**



### IMPACT

which also positively affects the **fuel efficiency**



### IMPACT

and results into **improved ergonomics**  
(light in-plant / DC material handling & logistics)





MXT  
ADVANTAGE



WEIGHT  
REDUCTION

TEST  
RESULT

PRODUCT DEVELOPMENT GOAL  
**WEIGHT REDUCTION  
UP TO 20%**  
IN COMPARISON TO CM2T (2SC)

TEST  
RESULT

PRODUCT DEVELOPMENT GOAL  
**WEIGHT REDUCTION  
UP TO 27%**  
COMPARISON TO G2 (2SN)







MXT  
ADVANTAGE



WEIGHT  
REDUCTION

WEIGHT ADVANTAGE - COMPARISON

Size			WEIGHT (KG/100M)			Δ	
-	DN	“	MXT	CM2T	G2	MXT/ CM2T	MXT/G2
-04	6	1/4	31	29	33	107%	94%
-05	8	5/16	36	34	35	106%	103%
-06	10	3/8	39	43	51	91%	76%
-08	12	1/2	46	51	63	90%	73%
-10	16	5/8	57	70	73	81%	78%
-12	19	3/4	70	87	88	80%	80%
-16	25	1	100	116	132	86%	76%





MXT  
ADVANTAGE



WEIGHT  
REDUCTION

TEST  
RESULT

TESTCASE BOOM LIFT WEIGHT  
SAVING OF 17,40 KG  
FUEL EFFICIENCY AND OVERALL  
WEIGHT REDUCTION

Boom lift	MXT Eligible in meters
6G2	90,80
4G1	42,70
8G1	38,70
12G2	12,10
8G2	10,70
16G1	1,30
24G1	1,10
20G1	0,30
Total Meterage	197,70
MXT Meterage	113,60
WEIGHT SAVING	-17,40



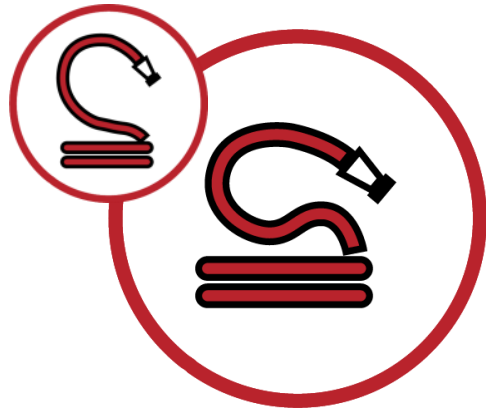




## MXT UNIQUE ADVANTAGES | INCREASED FLEXIBILITY

16

### MXT ADVANTAGE



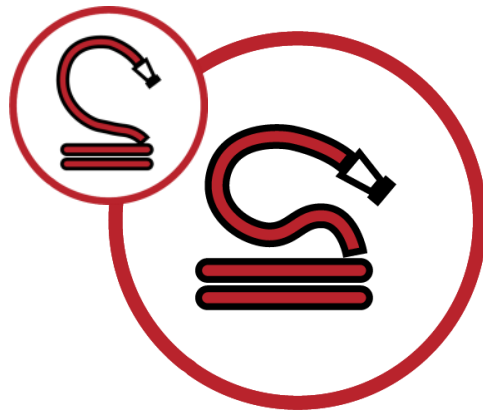
INCREASED  
FLEXIBILITY







## MXT ADVANTAGE



INCREASED  
FLEXIBILITY



### IMPACT

Improved line speed: flexibility allows **faster** assembly time



### IMPACT

Easier to route during installation means **better** line ergonomics



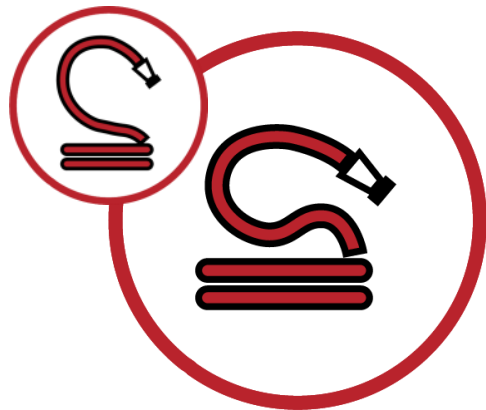
### IMPACT

Smaller Minimum Bend Radius (MBR) can mean using less hose





**MXT  
ADVANTAGE**



**INCREASED  
FLEXIBILITY**

TEST  
RESULT

**PRODUCT DEVELOPMENT GOAL**  
**INCREASED FLEXIBILITY**  
**UP TO 35%**  
COMPARISON TO CM2T (2SC)

TEST  
RESULT

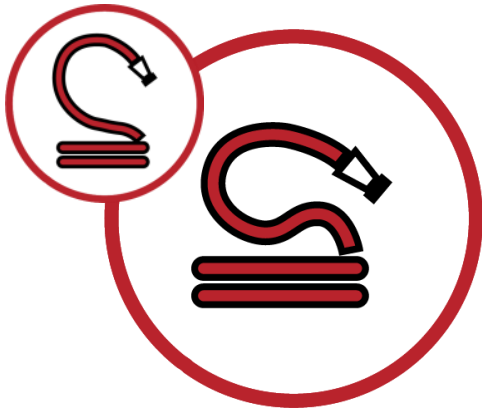
**PRODUCT DEVELOPMENT GOAL**  
**INCREASED FLEXIBILITY**  
**UP TO 50%**  
COMPARISON TO G2 (2SN)







MXT  
ADVANTAGE



INCREASED  
FLEXIBILITY

FLEXIBILITY ADVANTAGE - COMPARISON

Size			FORCE-TO-BEND (KG)			Δ	
-	DN	"	MXT	CM2T	G2	MXT/ CM2T	MXT/G2
-04	6	1/4	TBD	TBD	TBD	TBD	TBD
-05	8	5/16	TBD	TBD	TBD	TBD	TBD
-06	10	3/8	TBD	TBD	TBD	TBD	TBD
-08	12	1/2	1.6	2.4	2.8	67%	57%
-10	16	5/8	2.0	3.1	3.9	65%	51%
-12	19	3/4	2.5	TBD	4.1	TBD	61%
-16	25	1	3.3	TBD	4.7	TBD	70%





**MXT**

INNOVATION FUELED BY MATERIALS SCIENCE







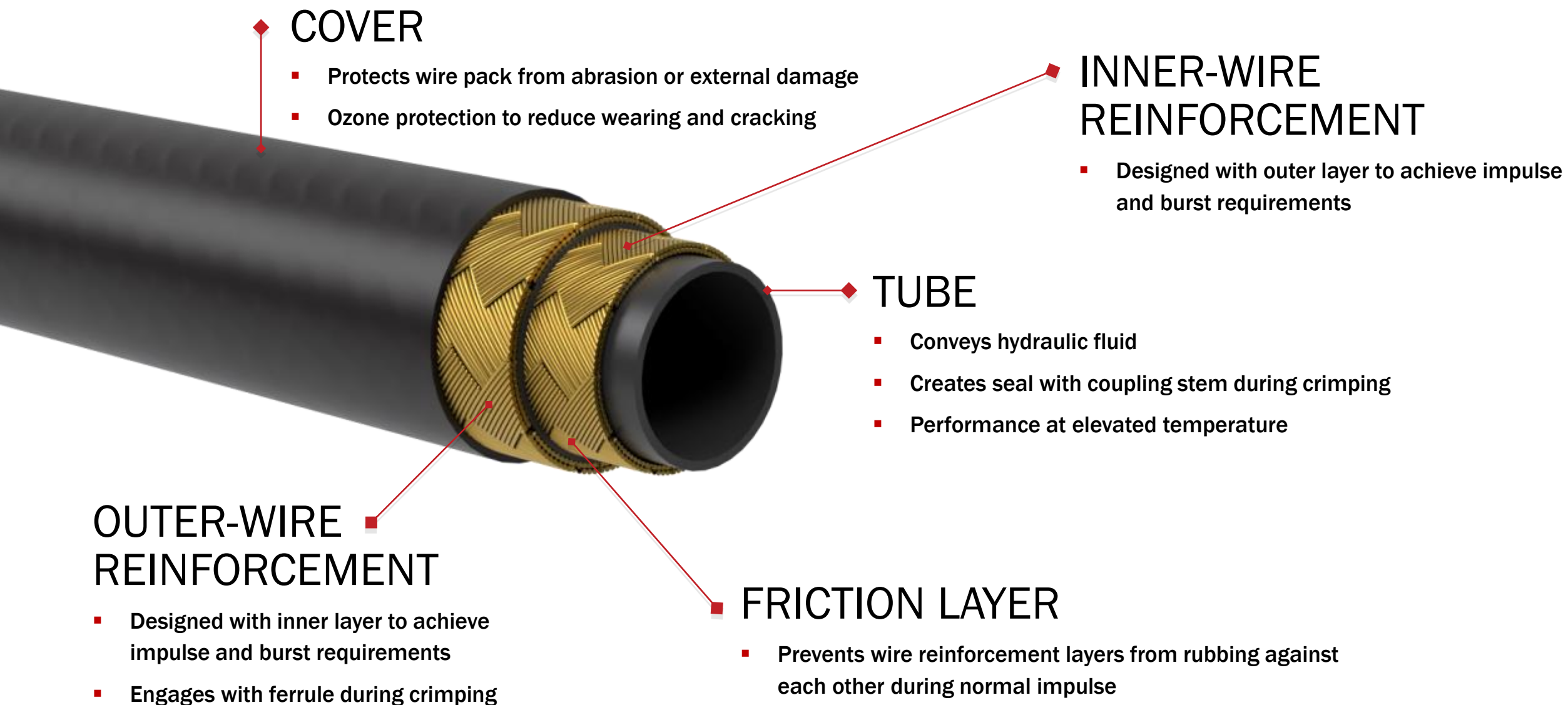
## Gates Most Popular Traditional One-Wire Hose Constructions:

G1

M3K  
(up to 1/2")

CR1





## Gates Most Popular Traditional Two-Wire Hose Constructions:

G2  
M2T  
M4K  
CR2





## COMMON MISCONCEPTIONS HOSE CONSTRUCTIONS

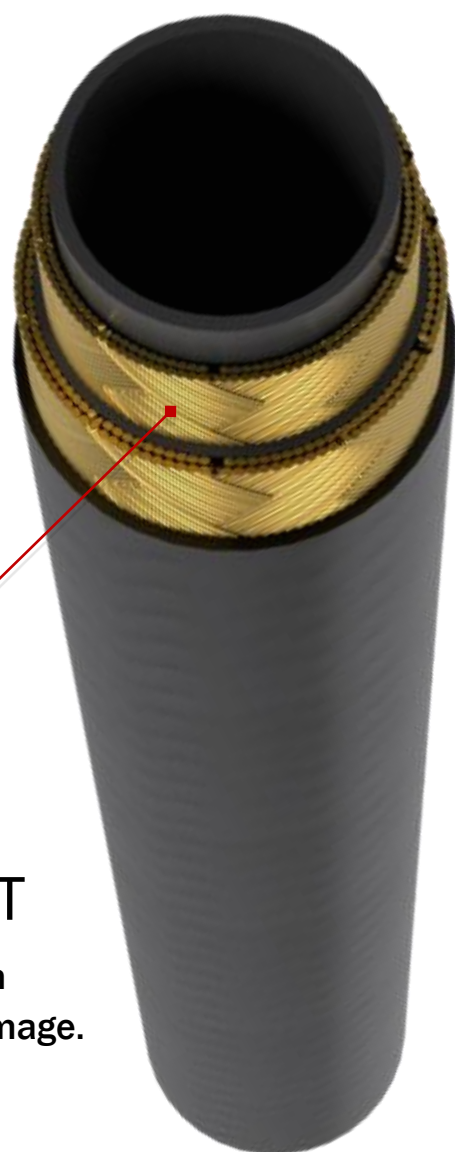
### MYTH #1:

The inner reinforcement layer provides a “safety factor” if the outer reinforcement is damaged.

- The inner and outer reinforcement layer are **NOT** redundant — they don’t work independently; they are designed to meet pressure and performance **TOGETHER**
- The inner and outer reinforcement layer are **NOT** capable of performance without the other
- The inner and outer reinforcement layer are designed to meet the industry specifications **TOGETHER** — they are designed to **WORK AS A SYSTEM**
- **ANY REINFORCEMENT DAMAGE** compromises the performance of the hose and **SHOULD NOT BE USED** – regardless of hose construction

#### INNER REINFORCEMENT

It’s **NOT** a back-up plan or an insurance policy against damage.





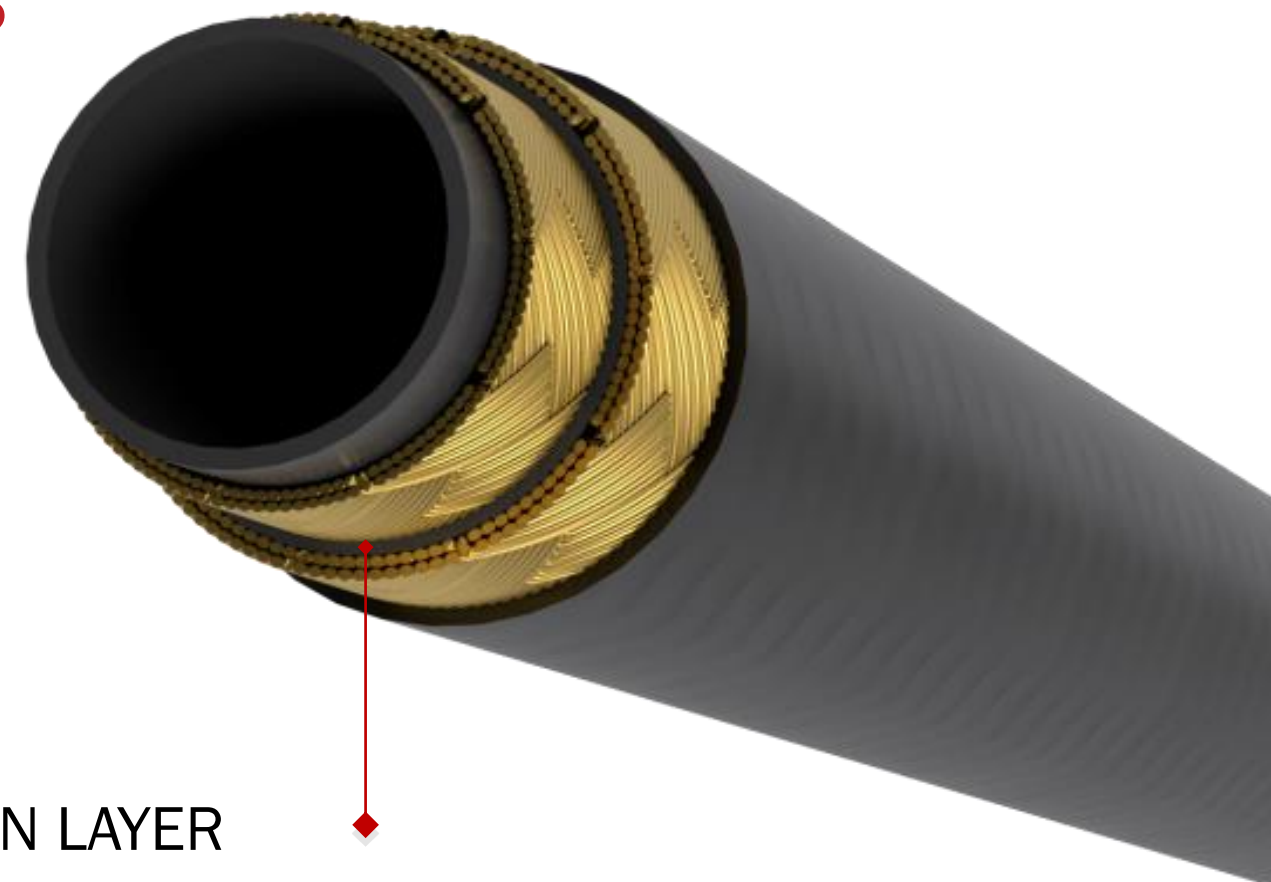


### COMMON MISCONCEPTIONS HOSE CONSTRUCTIONS

#### MYTH #2:

**The friction layer between the two wire reinforcement layers provides extra sealing.**

- A thin layer of material is **NOT** sufficient to contain hydraulic fluid at the pressures in hydraulic applications
- The friction layer material properties are there to prevent rubbing between the two reinforcement layers – they do **NOT** provide sealing



#### FRICTION LAYER

It's not a seal. It's **ONLY** job is to prevent the two layers of wire braid from rubbing against each other.





## COMMON MISCONCEPTIONS HOSE CONSTRUCTIONS

### MYTH #3:

**All wire braid layers are the same.**

- **WIRE DENSITY** in the wire pack changes the amount of wire in the reinforcement layer based on the design and pressure requirements
- **THE WIRE ITSELF CHANGES** – Various wire gauge or tensile strengths are used to adjust for the performance needs of the design
- **BRAID ANGLES** are adjusted based on the required wire density, wire selection, and hose performance requirements.





## COVER

- Protects wire pack from abrasion or external damage
- Ozone protection to reduce wearing and cracking

## TUBE

- Conveys hydraulic fluid
- Creates seal with coupling stem during crimping
- Performance at elevated temperature

## NEW INNOVATIVE ONE-WIRE REINFORCEMENT

- Designed to achieve impulse and burst requirements
- Engages with ferrule during crimping
- Made with premium materials for higher tensile strength
- Increased wire braid pack density (includes nearly the same length of wire as two-wire reinforcement with higher tensile strength wire)
- Engineered with enhanced wire technology
- Manufactured with our proprietary new wire-braiding process
- Designed to deliver the BEST performance

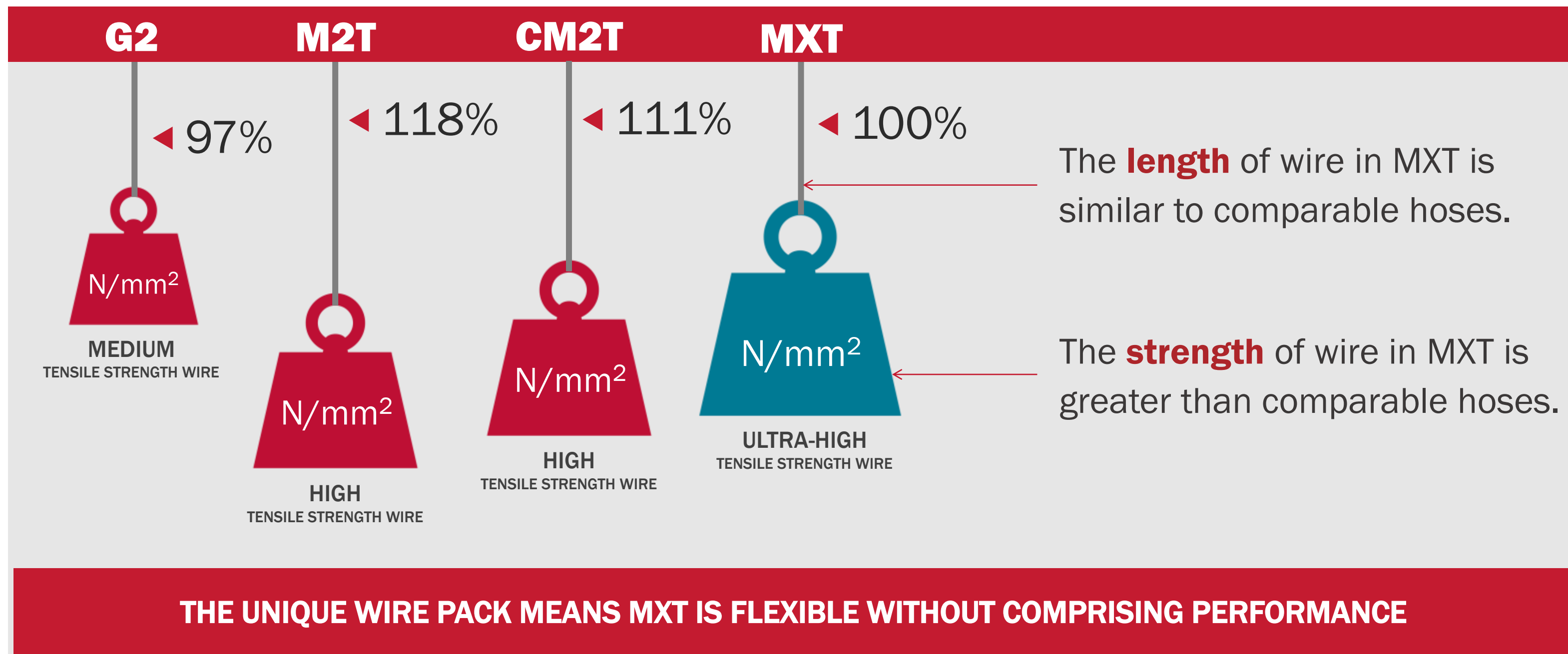
Gates NEW Next Generation  
One-Wire Hose Constructions:

MXT



NEW ONE-WIRE CONSTRUCTIONS **EXCEED INDUSTRY PERFORMANCE STANDARDS** BY LEVERAGING MATERIALS SCIENCE AND PROCESSING  
EXPERTISE **WITH LESS WEIGHT AND MORE FLEXIBILITY**

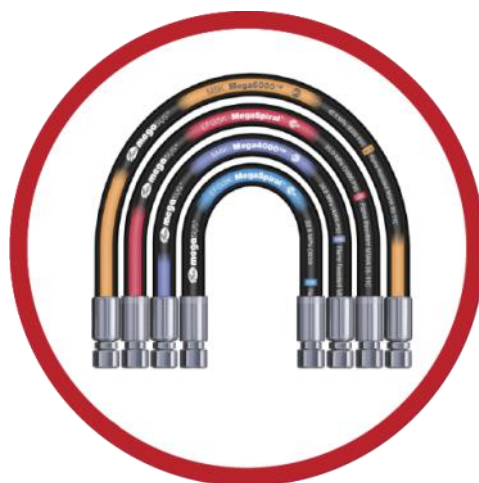








## PREMIUM SOLUTION

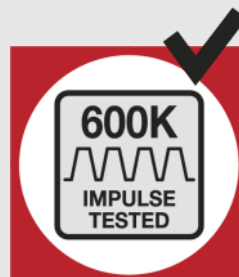


PART OF THE  
MEGASYS™  
FAMILY



### IMPACT

One MegaCrimp® coupling fits all



### IMPACT

Optimal lifetime



### IMPACT

Optimal bend radii





MXT  
PERFORMANCE



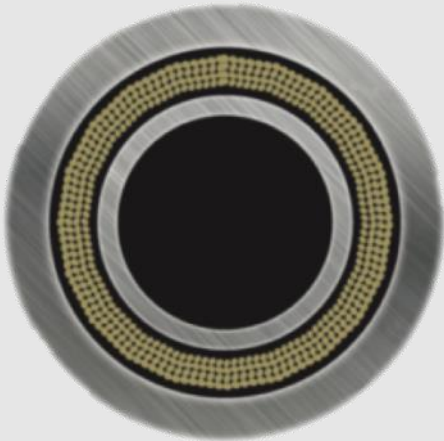
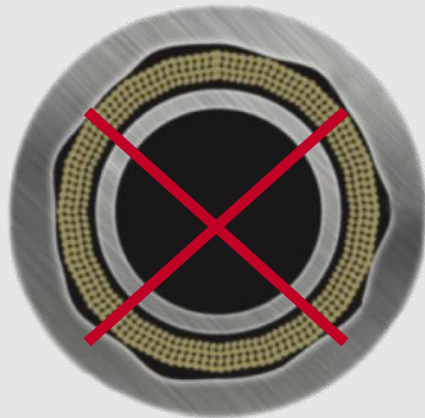
COMPLETE  
COVERAGE

ONE MEGACRIMP COUPLING FITS ALL

Minimal coupling inventory covers the complete hydraulic line. Gates lowers inventory carrying cost and simplifies crimping.

- Simplicity
- Versatility
- Leak free

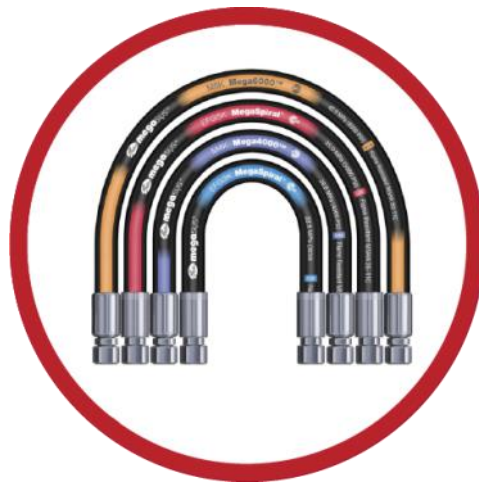
STANDARD	-04	-05	-06	-08	-10	-12	-16	-20
EN 857 2SC								
EN 857 1SC								
EN 853 2SN								
EN 853 1SN								
SAE 100R16								
SAE 100R17								
SAE 100R19								
SAE 100R7								
SAE 100R8								







**PREMIUM  
SOLUTION**

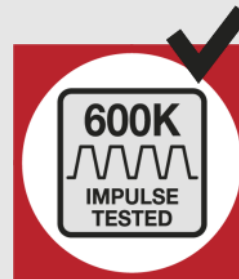


**PART OF THE  
MEGASYS™  
FAMILY**



**IMPACT**

One MegaCrimp® coupling fits all



**IMPACT**

Optimal lifetime



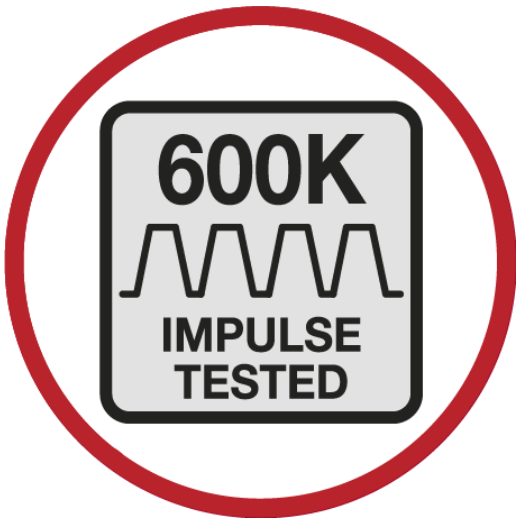
**IMPACT**

Optimal bend radii





PREMIUM  
SOLUTION



MEGASYS  
REQUIREMENTS

LIFETIME



Specification Requirements		GATES MegaSys Requirements	
EN 857 2SC	133% of WP 200,000 Cycles	CM2T	133% of WP 600,000 Cycles
100R16	133% of WP 200,000 Cycles	MXT	133% of WP 600,000 Cycles
100R19	133% of WP 200,000 Cycles	M4K	133% of WP 600,000 Cycles
100R12	133% of WP 500,000 Cycles	EFG4K	133% of WP 1,000,000 Cycles
100R13	120% of WP 500,000 Cycles	EFG5K	120% or 133% of WP 1,000,000 Cycles
100R15	120% of WP 500,000 Cycles	EFG6K	120% of WP 1,000,000 Cycles

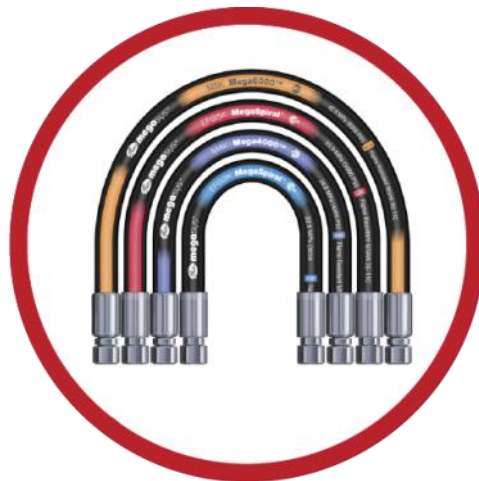
MXT | LEAK FREE

SAE J1754-1	Test Pressure	Impulse Cycles	Cool Down Test	1 <sup>st</sup> Cool Down	2 <sup>nd</sup> Cool Down	Leak Requirement
CLASS B	133% WP	200K	J1405 Option III	100K cycles	200K cycles	SAE J1176 Class 0
CLASS C	SAE J517	SAE J517	J1405 Option III	None	None	SAE J517





**PREMIUM  
SOLUTION**

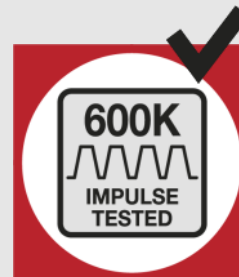


**PART OF THE  
MEGASYS™  
FAMILY**



**IMPACT**

One MegaCrimp® coupling fits all



**IMPACT**

Optimal lifetime



**IMPACT**

Optimal bend radii





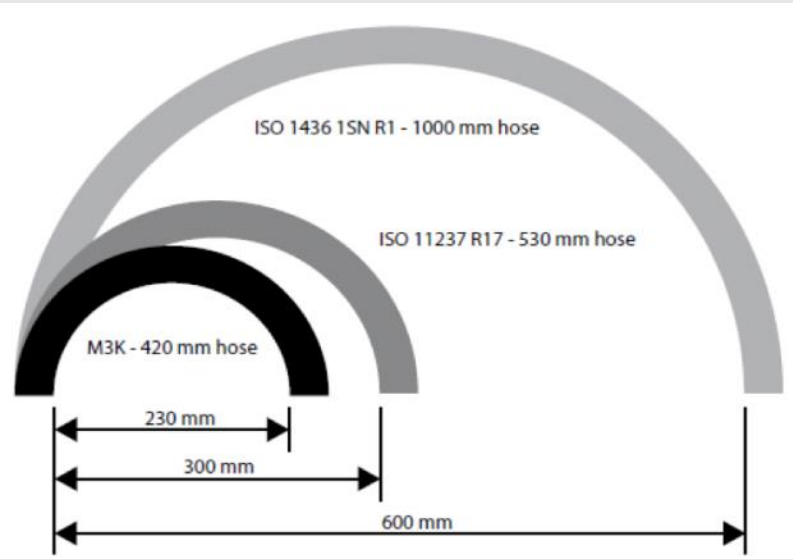
MXT  
PERFORMANCE



OPTIMAL BEND  
RADII

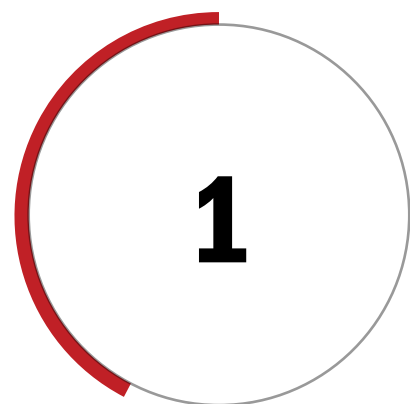
BETTER BEND RADIUS MEANS LESS HOSE

			COMPACT				STANDARD		
Size			MBR (mm)						
-	DN	“	MXT	EN 857 2SC	CM2T	EX2SC	EN 853 2SN	G2	CR2
-04	6	1/4	50	75	50	75	100	50	100
-05	8	5/16	55	85	55	85	115	55	115
-06	10	3/8	65	90	65	90	130	65	130
-08	12	1/2	70	130	90	130	180	90	180
-10	16	5/8	75	170	100	170	200	100	200
-12	19	3/4	120	200	120	200	240	120	240
-16	25	1	150	250	150	250	300	150	300



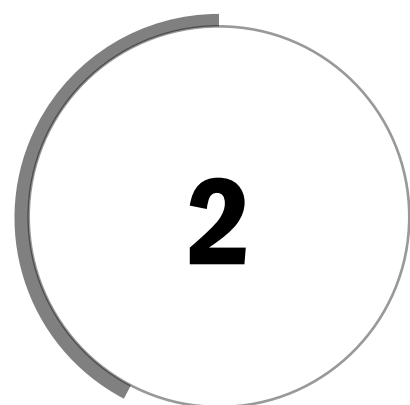


**HYDRAULIC SYSTEMS AND APPLICATION DICTATE HOSE CONSTRUCTION**



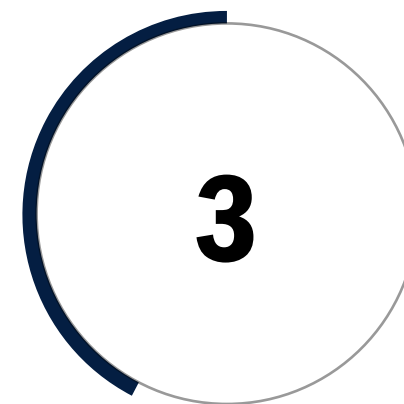
**HYDRAULIC SYSTEM REQUIREMENTS**

Define the primary criteria for hose selection – primarily pressure and temperature.



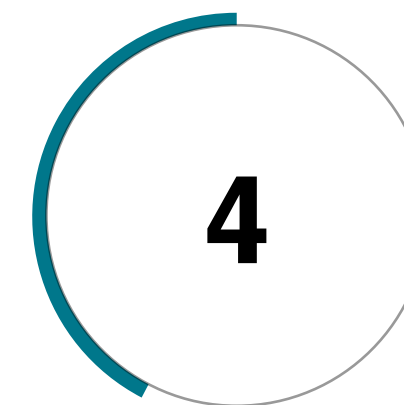
**APPLICATION REQUIREMENTS**

Define other hose selection criteria, such as minimum bend radius, abrasion resistant covers, or impact of failure.



**INDUSTRY STANDARDS**

Define hose minimum performance parameters, including pressures by sizes, minimum bend radius or impulse cycle requirements.



**HOSE MANUFACTURERS**

Differentiate product performance by exceeding industry performance standards, primarily by impulse cycles, minimum bend radius and pressures – differentiate reliability and quality.

**ALWAYS CHOOSE THE BEST HOSE CONSTRUCTION FOR YOUR CUSTOMER'S APPLICATION – REGARDLESS OF CONSTRUCTION**





**MXT**  
MARKET FIT







**MXT**



**MARKET  
FIT**

**OEM  
TESTED TO CUSTOMER SPECIFICATIONS**



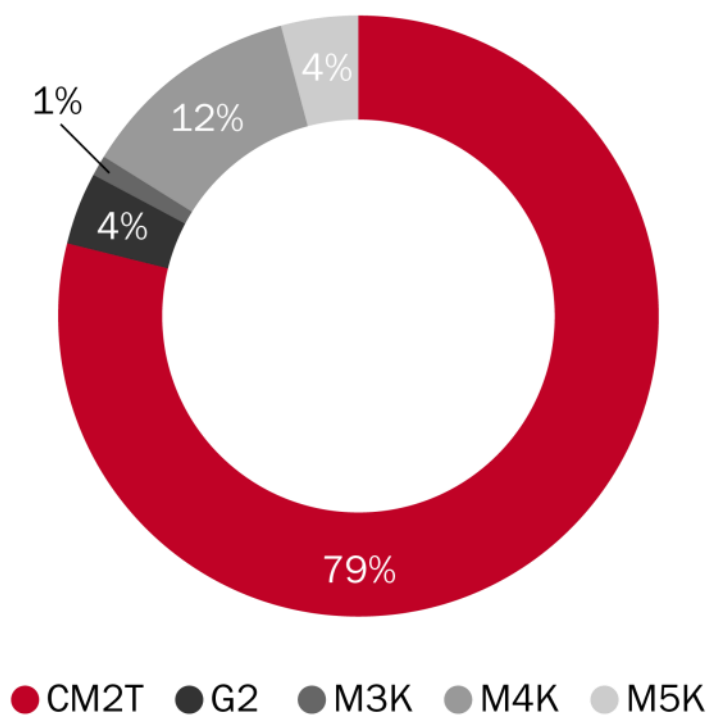
**DISTRIBUTION  
DRIVEN BY POSSIBILITY**



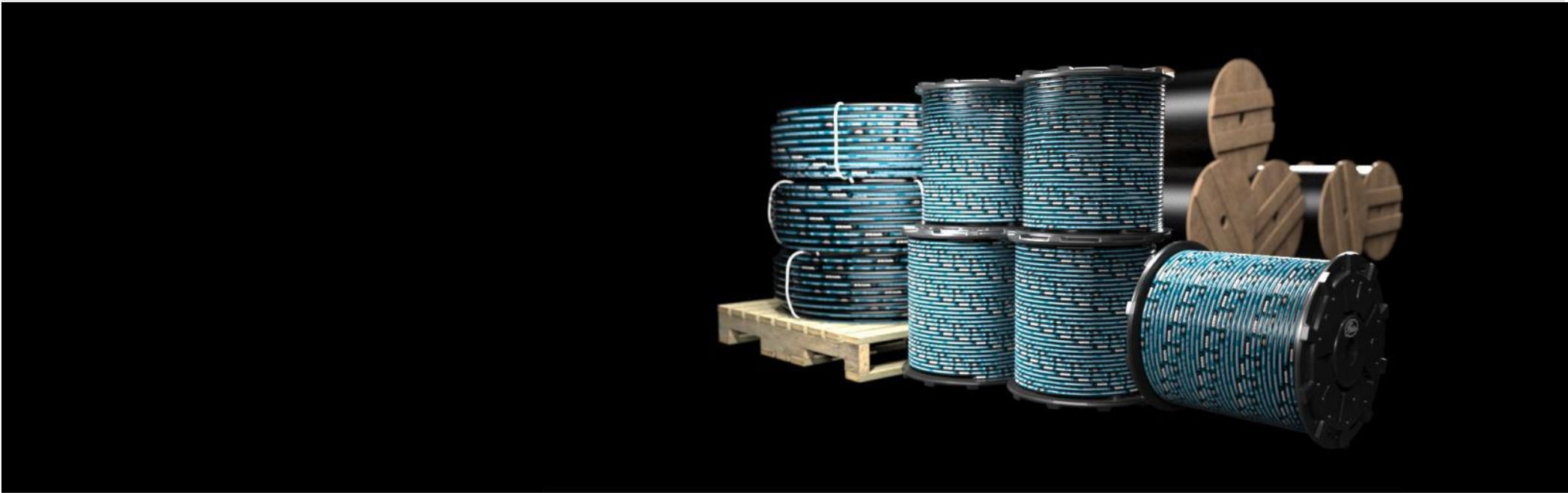




CURRENT DISTRIBUTION CONVERSION POTENTIAL



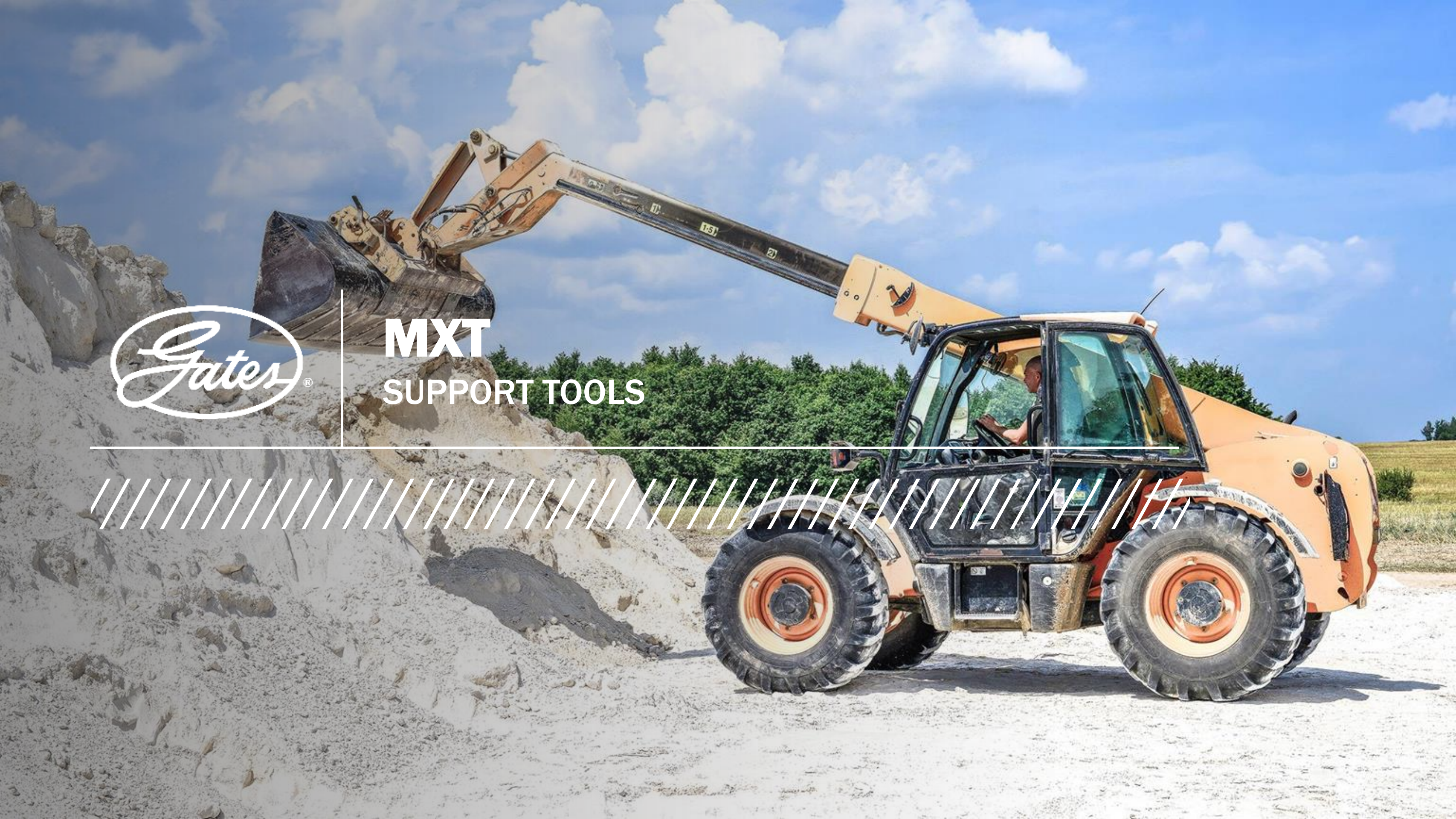
HOSE	STANDARD	-04	-05	-06	-08	-10	-12	-16
CM2T	EN 857 2SC	MXT	MXT	MXT	MXT	MXT	MXT	MXT
G2	EN 853 2SN	MXT	MXT	MXT	MXT	MXT	MXT	MXT
M3K	SAE 100R17	MXT	MXT	MXT	MXT	MXT	MXT	
M4K	SAE 100R19	MXT	MXT	MXT	MXT			
M5K	PROPRIETARY	MXT						







**MXT**  
SUPPORT TOOLS







## MARKETING MATERIALS AVAILABLE

- Totem
- Advertisement
- Press release product launch
- Thought leadership piece on 'Hose innovation'
- Brochure
- Infographics
- Field Bulletin 169
- Sales presenter
- E-mail signature banner
- Product video & customer testimonial video
- Digital re-activation campaign & Landing page website
- Samples
- DVP&R (as needed for costumer specific requests)
- Toolboxes with all MarCom collateral (ZIP-folder)



## MARINE OPPORTUNITIES

in-process for type approval certification  
ISO 15540 Compliance







**MXT**

WE LOOK FORWARD TO YOU JOINING OUR ADVENTURE

