



FIRE PERFORMANCE

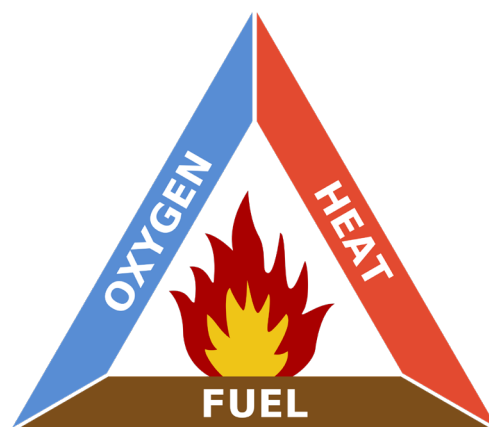
 **A-SAFE**
PIONEERING WORKPLACE SAFETY

FIRE SAFETY

A-SAFE SAFETY GUARDRAILS ARE ENGINEERED TO PROVIDE EXTREME IMPACT PROTECTION IN THE TOUGHEST INDUSTRIAL ENVIRONMENTS

But what about fire safety? How do A-SAFE solutions compare to other materials and polymers found within industrial workplaces?

As the global leader in workplace safety systems, A-SAFE is committed to making the world's workplaces safer and more efficient. This includes ensuring that our products will not increase the risk of fire starting or spreading rapidly around a facility.



The Fire Triangle shows the 3 elements needed for combustion

THERE IS SIGNIFICANT VARIATION IN HOW DIFFERENT POLYMERS WILL BEHAVE IN THE EXTREME TEMPERATURES OF A FIRE.

Only A-SAFE products are manufactured from Memaplex™ – an advanced, non-toxic polymer that offers the highest levels of flexibility and resilience without compromising on fire safety.

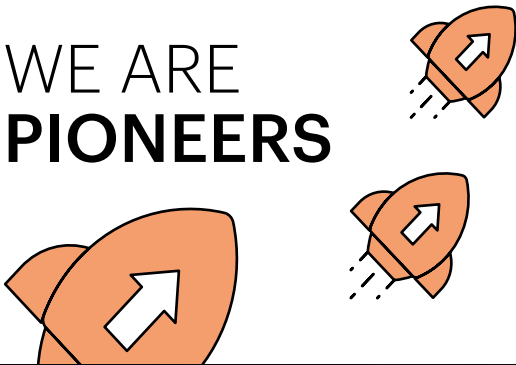
Some manufacturers of polymer guardrails use cheaper, more hazardous materials, so it is important to consider multiple factors when assessing fire risk.

Material Properties	MEMAPLEX™
Operating Temperature Range	-10°C to 50°C
Ignition Temperature	370°C to 390°C
Flash Point	350°C to 370°C
Toxicity	Not Hazardous
Chemical Resistance	Excellent - ISO/TR 10358
Static Rating (Surface Resistivity)	1015 - 1016 Ω

WHAT MAKES US WHO WE ARE

At A-SAFE we are defined by who we are as much as by what we do. Our values are the foundation for our passion, our products and the strong relationships we forge with our customers.

WE ARE PIONEERS

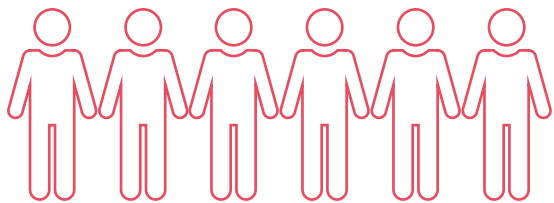


From our very first invention to every process and customer interaction, we are encouraged to be brave, be dynamic and explore the possible and seemingly impossible. Big or small, it all makes a difference. The key is to always try new things, to learn, adapt and move forward. With a shared sense of enterprise and adventure, we never, ever give up and ask ourselves every day, what if?

FORGE NOT FOLLOW



WE ARE IN IT TOGETHER SHOULDER TO SHOULDER



More than a collection of employees and customers, we are a collective who act and behave like a family. With mutual commitment, we build powerful, trusted relationships, both with each other and with customers all over the world. While our brand is global, our relationships are local. We get huge satisfaction from building direct relationships with customers – drawing inspiration from their problems to help us forge new ideas.

WE STAND SHOULDER TO SHOULDER WITH
PARTNERS ALL OVER THE WORLD, INCLUDING:

3M

amazon

JAGUAR

LAND-ROVER

Heineken

DHL

Coca-Cola

Heathrow

IKEA

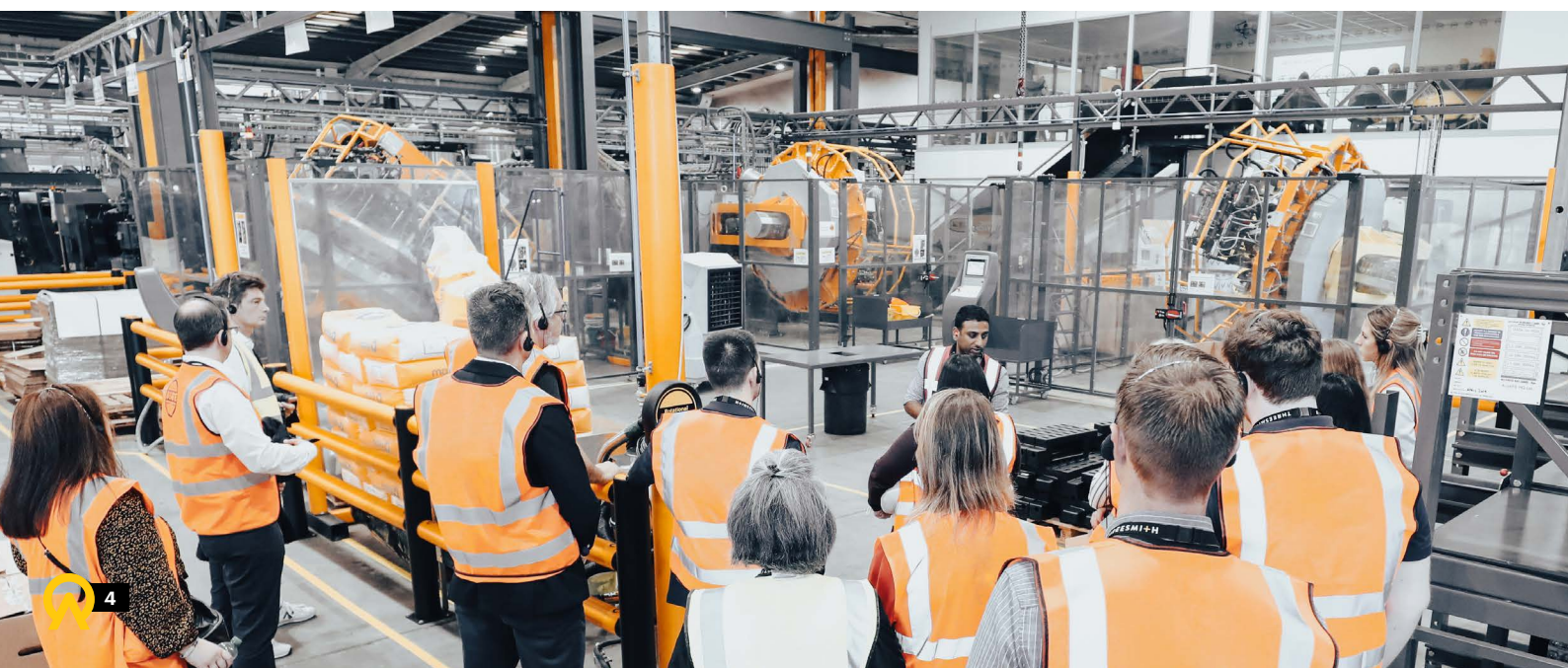
MARS

Kimberly-Clark

McCain

Nestlé

P&G



SCIENTIFICALLY ENGINEERED SAFETY

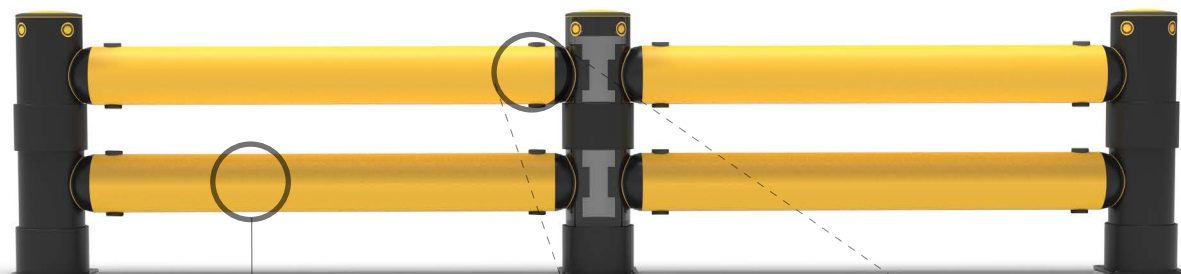
Whether in the resilience, flexibility and in-built memory of our exclusive Memaplex™ material or the unrivalled energy absorption of our patented 3-phase coupling system, a wealth of scientific and technical ingenuity goes into every A-SAFE product to ensure that it performs perfectly every time you need it to.

- MORE ADVANCED ENGINEERING
- MORE SAFETY FEATURES
- PERFORMANCE YOU CAN TRUST



Unrivalled recovery through a unique built-in memory that allows the guardrail to flex, cushion and reform repeatedly upon impact, saving vast amounts in guardrail and vehicle repairs.

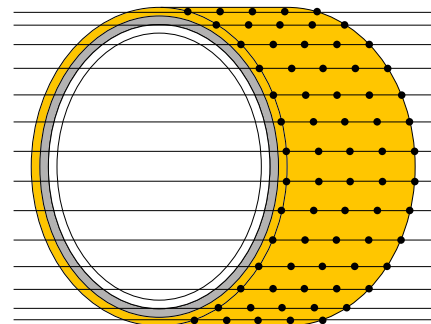
Huge return on investment from incident prevention and downtime avoidance as guardrails, vehicles, floors and equipment do not need replacing or repair.



MEMAPLEX™

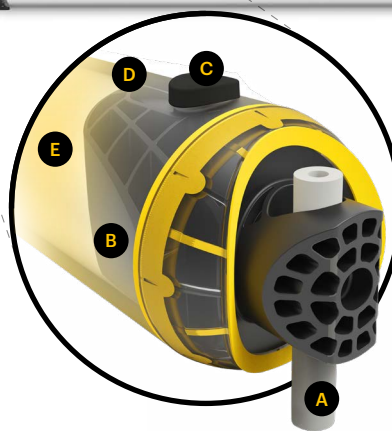
Ultimate strength polymer created from an exclusive composition of the most sophisticated polyolefins and rubber additives, expertly blended for unequalled strength and flexibility.

Advanced Engineering Molecular reorientation during manufacturing creates a unique built-in memory that enables the guardrail to fully recover following impacts.



Revolutionary 3-Layered Material

- Inner strengthening core
- Central impact absorption zone
- Outer UV stabilised colour layer



ENERGY ABSORPTION SYSTEM

A patented 3-phase system that activates sequentially for unparalleled energy absorption.

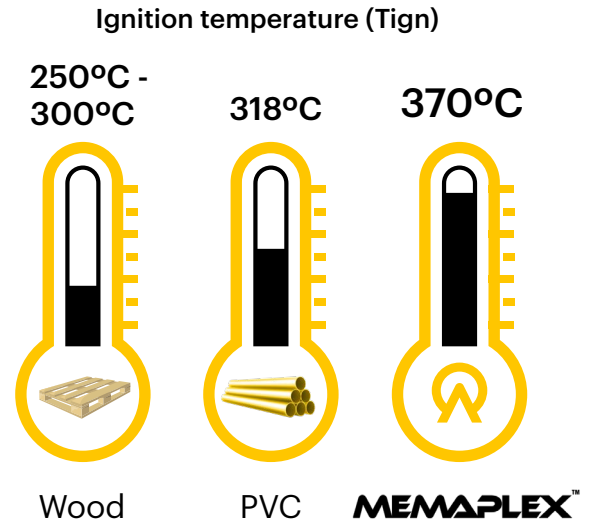
- 1 Memaplex™ rail flexes to absorb impact, initiating the rail pin to slide forward and transfer load energy to the compression pocket.
- 2 Compression of the pocket continues to disperse energy as the coupling rotates around the post pin to activate further absorption.
- 3 At peak energy, the coupling twists further, engaging the post pin and instigating torsion of the post to dispel remaining forces.

- | | | |
|-------------------|-----------------------------|---------------|
| A Post Pin | C Rail Pin | E Rail |
| B Coupling | D Compression Pocket | |

IGNITION TEMPERATURE (TIGN)

The higher the ignition temperature of a material, the more heat energy is required to create the conditions for combustion.

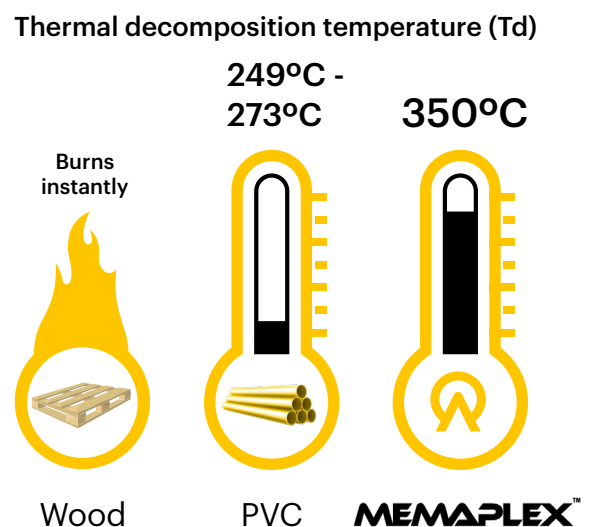
A-SAFE polymer guardrails have an ignition temperature of 370° Celsius which is significantly higher than materials such as wooden pallets or polymers such as flexible PVC. This means that for combustion of an A-SAFE guardrail to occur, a facility fire would need to be both large and well advanced, by which time any personnel would have already been evacuated to safety.



THERMAL DECOMPOSITION TEMPERATURE (TD)

In a fire, materials with a low thermal decomposition temperature will begin breaking down sooner than those able to withstand more heat.

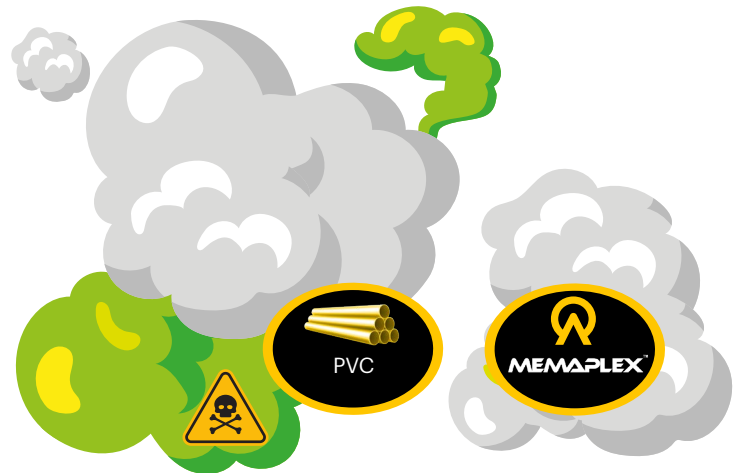
Memaplex polymer has been engineered to remain stable up to a temperature of 350° Celsius. In contrast, PVC starts breaking down at between 249° Celsius and 273° Celsius, and materials such as wood will burn instantly.



SMOKE AND HAZARDOUS FUMES

In any facility fire, smoke poses a far greater danger to life than heat or flames. Not only do some materials release toxic gases when they burn, but dense smoke can also disorientate people and hinder their escape.

Memaplex has been specially developed to minimise the release of smoke during combustion. Furthermore, unlike environmentally hazardous polymers like PVC, it does not release harmful dioxins, hydrogen cyanide or hydrogen chloride when burnt.



Chemicals released during burning	Hydrogen chloride, CO, CO ₂ , water, hydrogen cyanide, dioxins	CO ₂ , CO and water
Smoke Extinction Areas	1015 - 1078 m ² /kg	455 m ² /kg
Specific optical smoke density [Dm]*	535	119

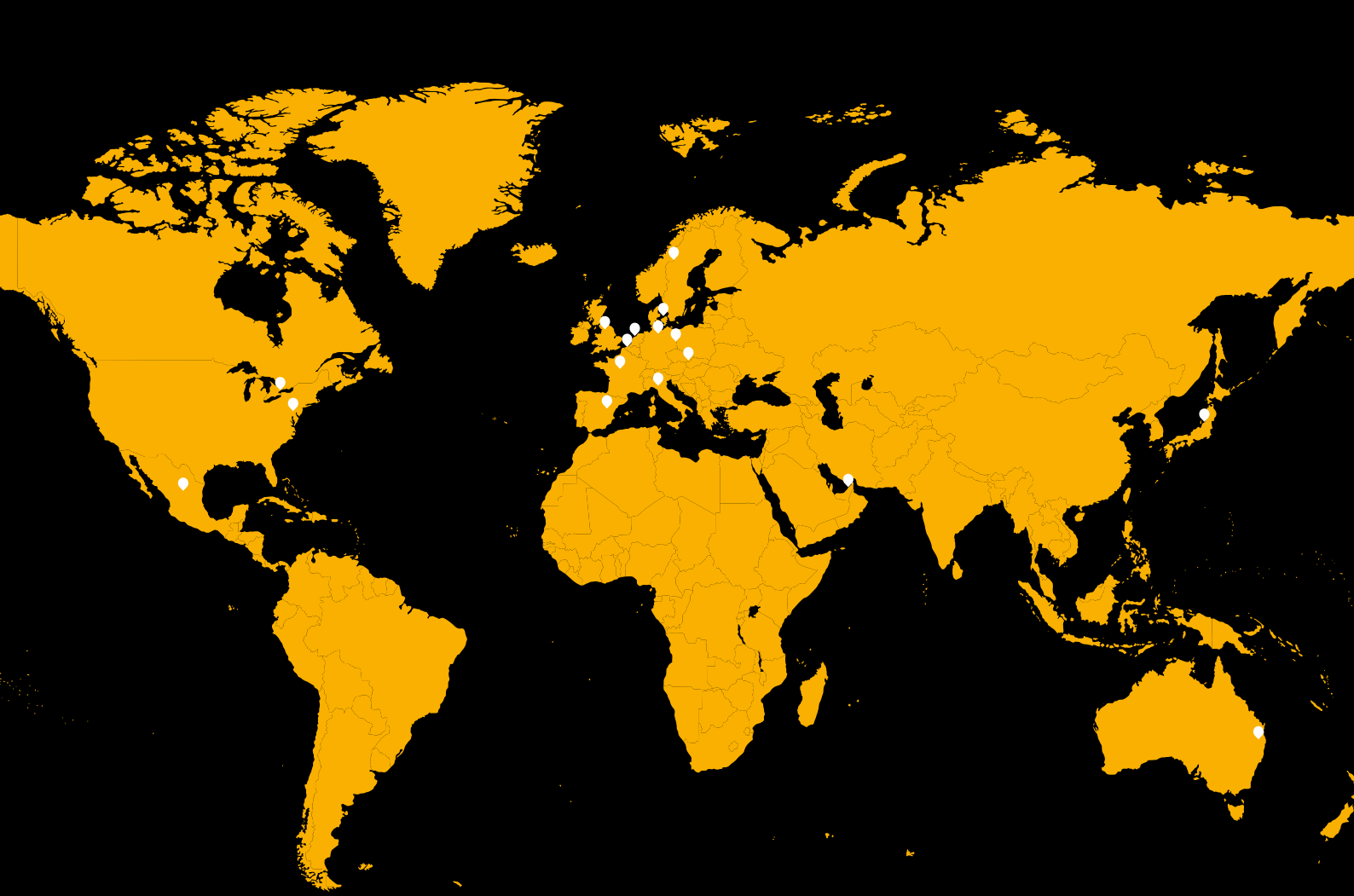
*ASTM E662 6mm sample flaming

HORIZONTAL BURN (HB)

UL94 horizontal burn compliance criteria state that a material with a thickness of 3-13mm can burn at a rate of no more than 40mm per minute.

Memaplex burns at a rate of just 20mm per minute, reducing the speed at which a fire can spread.





A LOCAL COMPANY, GLOBALLY

We work hard to maintain the spirit of a local business while achieving the far-reaching impact of a global enterprise.

Our policy of being “Global and Local” enables us to respond to your needs wherever you are in the world. In every office worldwide, we employ local experts throughout the business. Specialists in their field, equipped with an in-depth knowledge of domestic markets, legislation, safety practices and social customs. We strive to give all workplaces access to world-class products, through local offices and consultants.

GLOBAL OFFICES

A-SAFE Headquarters	Global	A-SAFE S.A. de C.V.	Mexico
A-SAFE Australasia PTY Ltd	Australia & New Zealand	A-SAFE B.V.	Netherlands
A-SAFE bvba	Belgium & Luxembourg	A-SAFE Sp. z o.o.	Poland
A-SAFE Canada Inc	Canada	A-SAFE Soluciones S.L.	Spain
A-SAFE Scandinavia ApS	Denmark	A-SAFE AB	Sweden
A-SAFE SAS	France	A-SAFE DWC-LLC	UAE
A-SAFE GmbH	Germany & Austria	A-SAFE UK Ltd	UK
A-SAFE Italia s.r.l.	Italy	A-SAFE Inc	USA
A-SAFE K.K.	Japan	A-SAFE International Ltd	Rest of the World

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