



THE Herald

ERA POLYMERS NEWS BULLETIN



“The secret of change is to focus all your energy not on fighting the old but on building the new.”

Socrates

INSIDE THIS EDITION #41

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LESSONS FROM LIFE CLOGS TO CLOGS IN THREE GENERATIONS # 18

A few years ago, I was in the Netherlands, with our distributor Remi.... He gave me a pair of FOAM clogs.

Then we discussed, over dinner, the classic Dutch expression;

“ Clogs to Clogs in Three Generations”

So, he explained to me, that in the old days, poor, poor, Dutch would fashion shoes from... WOOD.

(Continued on page 2)



ERA POLYMERS

A SPECIAL MESSAGE FROM THE GENERAL MANAGER



The year 2020 will no doubt be etched in our memories for many years to come. The human tragedy across the world has touched us all in some way. However, this also reminded us of our collective ability to respond with care, resilience and innovation.

Maintaining supply to all of our customer across the world became an existential challenge, disrupted supply chains, government-imposed shutdowns, trade disputes and shipping delays all contributed to an enormous challenge for our teams to manage. But, manage we did!

Sales volumes increased, production capacities increased, headcount increased and importantly customer numbers increased. An important platform has been established, from which we can continue to grow as a global company.

(Continued on page 8)

(Continued from page 1)

They couldn't afford "real" leather shoes, let alone a pair of Nike's.

As, they HOPEFULLY, became more "successful" in life, they would trade their wooden shoes for leather ones ... and IF their next generation didn't get it "right" ... they, would be back, to wooden clogs... again.



In turns out, that most cultures in the world have similar sayings.

In Western Culture we have;

"The first generation makes it, the second generation hangs (hopefully) onto the wealth, and the third generation loses it "

Look at what the Sheikh of Dubai, recently said ;

They asked the founder of Dubai *Sheikh Rashid* about the future of his country, and he replied:

'My grandfather was riding a camel, my father was riding a camel, I was riding a Mercedes, my son was riding a Land Rover and my grandson is going to ride a Land Rover, but my great grandson will have to ride a camel again...Why is that? he was asked.

Tough times create strong men, strong men create easy times. Easy times create weak men, weak men create hard times. Many will not understand it, but you have to create warriors, not parasites...

Life's difficulties, challenges aren't there to wipe you out of existence, but to make you stronger.

I've written about it many times before... generations who have known HUNGER, tend to, when the situation presents itself to them, to have a BIGGER, work ethic.

Look at the miracle of CHINA.

A few generations ago, the people were hungry... they only had a Little Red Book, to guide them through life.

IF you've known real hunger, and then you get the opportunity to NOT be hungry, God Bless, you work and work, to get out of that poverty trap .

Even today, people like JACK MA, of Alibaba say that Chinese people should have a " 996 " work ethic.

996 Work ethic
i.e. work from 9 am to 9 pm, SIX days per week.

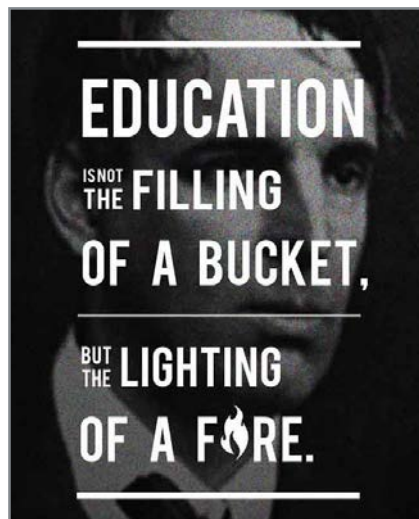
i.e. work from 9 am to 9 pm, SIX days per week.

"Being the best person that you can be" It is about MAXIMIZING your potential.

It doesn't matter what your potential is ... pushing yourself to THAT potential, is what life should be all about. SOME, can and do, motivate themselves.

ME, unfortunately in my earlier life... needed motivation.

My father had a philosophy that ;



"You push your children until they learn to push themselves"

And, at the grand old age of 16 ... I needed a push, a strong one .

I wanted to leave school... dad had other ideas.

Whatever he said to me worked..... 60+ years later, I still can't slow down!

My father, only went to third class primary school ... His father, my grandfather, was a tobacco farmer.

Tobacco growing in the 30's, is what the family did.. so dad was taken out of school to help work the leaves.

He moved the family to Australia in 1954. He was 42 years old. Mum was 40.

He wanted a better life for his family, his children... and giving his children a better chance, a better education, was a means to an end... and Australia gave the family the opportunity to do so.

So what did YOU do George , to motivate yourself ?

So what did YOU do George, to motivate yourself?

Have a look at two attached photos ;

1... I like , like my American / Italian brother, Larry, liked SCIENCE... So I saved up and bought a microscope ...the microscopic world opened up to me...I knew that I wanted a life in science .. POLYURETHANE, is science, true ?!

That is simply trivial, right ... back then, it was my treasure...I would be out in the backyard, looking for stuff ..anything to put on a slide ... I even pricked myself to look at my... blood!



2... More importantly I bought a “speed reading kit” (this is PRE the internet)...

So the idea was that you put cards into a slot, cards, were either numbers, multiple numbers, words or sentences... you could change the speed of the slot opening up.. So as you got the hang of it, the words were then exchanged for sentences, a few numbers became lotsa numbers... yada yada, yada

By doing ALL the cards I learnt to read FAST, and more importantly to absorb what I was reading.



So, reading and absorbing what was in the books ,that I read... gave me a lifelong thirst for knowledge ... but much, much, more importantly ,I developed a THIRST for ...wisdom, wisdom .

I'm like a Diogenes, going through life, with my “lantern” searching out books, more importantly, PEOPLE, whose wisdom, I can absorb.

Then I read motivational books... and,

this was WAY before Anthony Robbins .

ONE little book that I read, said to build your CONFIDENCE ... sometimes 16 year olds lack confidence, right ... I was one!

I read a small book (and I've forgotten the name of it.. it was too long ago). The essence of the book condensed down to, IF, you want to build confidence, you write down on paper, hundreds, and hundreds of times;

“Take The Time To Think “

(Don't laugh Larry, I'm being serious)

And you had to press ULTRA hard, on the “T's”... the KEY was the writing a capital “T” ...AND, pressing hard.

I did ...hundreds of times.

Stop laughing... When you are 16, you tend to be gullible ... my frontal lobes hadn't yet hardened...so, I was impressionable.

FOR ME... It worked.

NOW, my family lectures me that I have too much confidence ... and my family is always at me, to, “ tone it down” .

See, FOUR simple things ... put me on a totally different path .. a fathers' STERN lecture, a passion for science, a passion for reading FAST, and remembering what I wrote, and a simple trick , to build confidence... became the “flutter of butterfly wings... that created a tsunami “

AND, I still have Remi's “clogs” to remind me what life should be all about.



George Papamanuel
December 2020

ERAPOL ELASTOMERS: TENSILE PROPERTIES

Tensile Strength

(ASTM Methods D412 and E6)

The maximum tensile stress a material is capable of developing.

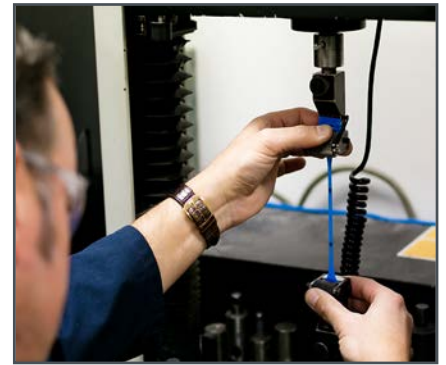
It is the force per unit of the original cross-sectional area which is applied at the time of rupture of a specimen. It is known variously as breaking load, breaking stress and ultimate tensile strength. A dumbbell specimen is used for the test.

Elongation

(ASTM Method D412)

The extension between two points produced by a tensile force applied to a specimen.

Measured as a percentage of the original distance between the marks. A dumbbell specimen is used for the test. Ultimate elongation is the elongation at the moment of rupture.



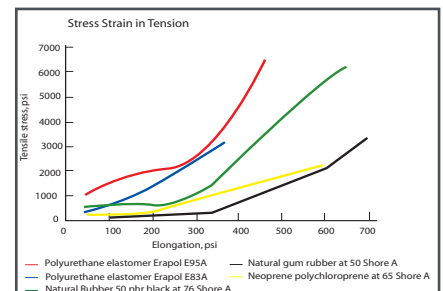
Erapol elastomers are characterised by high elongation, high tensile strength and high modulus. This provides a combination of toughness and durability, over conventional elastomers.

Tensile tests are performed on a tensometer as shown (see above). In this test we are interested in the shape of the overall stress strain curve. The more area there is under the stress-strain curve the higher the toughness of the material.

We are also interested in various points along the curve including the ultimate tensile strength and elongation of the

Erapol elastomers.

For more information & testing details call Era Polymers on (02) 9666 3788



ERA STAFF NEWS: MACHINERY DEPARTMENT

We are proud to announce that **Josip Salopek** has been appointed the Machinery & Equipment Business Development Manager. Josip celebrates 20 Years as a much loved employee of Era Polymers.

For all your machinery & equipment needs, please feel free to make yourself known to Josip and he will assist you with all your enquiries. **Tel:** 02 9666 3788



Ask Josip about the GAMA Easy Spray unit, also seen here holding the Master III Air Purge Gun here.

JOSIP SALOPEK

Machinery & Equipment
Business Development Manager



RUBBER BINDERS : APPLICATION GUIDE

These products have been designed as a low cost means of binding together reconstituted rubber to produce safety surfacing solutions for various applications.

- Sports Surfaces
- Playground Surfaces
- Underlay for Synthetic Grass
- Shock Absorbing Pavers/Mats
- Suitable for Compression Moulding
- Anti Fatigue Flooring

PROPERTIES	EMD73RB	EMD76RB	EMD288RB
% NCO	10.3	10.3	8.4
Viscosity @ 25°C	4700	3200	7200
Rubber / Adhesive Ratio	80/20	80/20	80/20
Tack Free Time / hours *	3.5	4.0	3.0
Curing time before use / hours *	24	24	24
Alternative curing @ 150°C / min	20	20	30

1. Weigh the appropriate ratios of Rubber Binder (adhesive), Pigment and Granulated Rubber
2. Add to the mixer. There are a variety of mixers that can be used; eg - a concrete mixer. The main criterion is the ability for the mixer to completely mix the rubber granules and the Rubber Binder together.
3. Depending on the size and type of mixer the mixing time will vary. (Approximate Mix Time – 10 minutes) You will need to mix until the rubber is evenly coated with the Rubber Binder. There should be no “dry” parts in the rubber pellets.
4. Soften and smooth the prepared substrate.

For more information call Era Polymers on (02) 9666 3788 (International +612 9666 3788)

Typical Combination of Rubber Binder (Adhesive)

1. 25 kilos 5 kg Granulated Rubber Rubber Binder



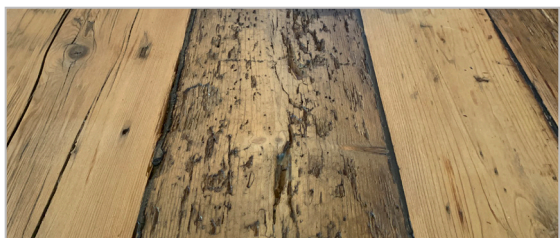
3. Mix: One bag of 25 kg granulated rubber, 5 kg of Rubber Binder (adhesive) and Pigment

4. Mix until the rubber is uniformly coated with adhesive (Approximately 5 to 10 minutes)



URETHANE COATINGS CASE STUDY

POLYURETHANE SPECIALISTS SINCE 1979



With WaterKote® 2K Bare it's NEVER too old to move!

Owners of Lacote Labradors fell in love with this New York State Barn built in 1791 and it is easy to see why. This amazing building built in 1791 uses no 'metal nails' and is constructed totally by geometry and wooden pegs.

Lacote Labradors are based in Arcadia, a semi-rural suburb of Sydney, New South Wales, Australia approximately 40 km north-west of Sydney's CBD. The owners of Lacote Labradors just had to have this New York State Barn as an extension to their house.

The barn was in New York, so to make their dream come true they had the barn deconstructed by specialists in America, shipped to Sydney and driven to their home in Arcadia. Five American's then flew over to Sydney and reconstructed the barn in just 4 days!

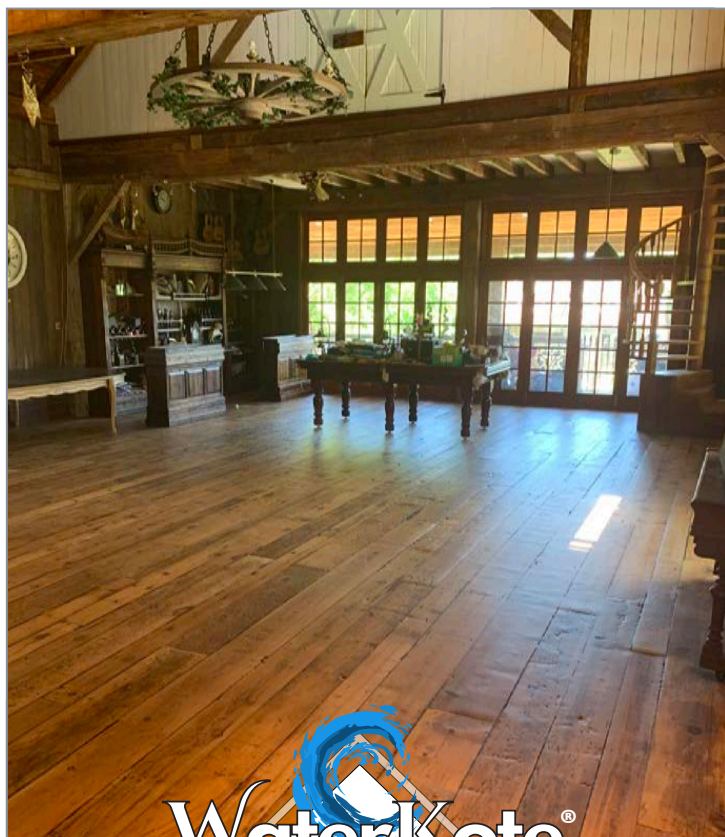
The flooring of the barn is old recycled Hemlock. Hemlock is a beautiful pale softwood timber native to North America. If you look closely at the floor, it is damaged and scratched deeply but this is the desired effect known as 'threshing' and tells the story of its' past when animals use to live in the barn. Up to 229 years ago! (Threshing is the process where an animal walks around in circles to separate grain & in the process creates this effect.)

Once installed in its' new location this aged timber needed some Tender Loving Care. Contractors The Hun Floors were employed to do the job. They chose Urethane Coatings non-hazardous water borne system WaterKote® 2K Bare Timber for the job.

Two coats of WaterKote® 2K Bare Timber were applied to protect the 150m² of Hemlock timber, while ensuring the look and appearance of the natural timber was kept.

WaterKote® 2K BARE TIMBER	A NEW generation 2 Component water borne polyurethane.
<ul style="list-style-type: none"> • Exceptional flow & levelling • Hard wearing • Commercial high-performance floor coating 	

229 yr old relocates 15,980 km New York to Australia



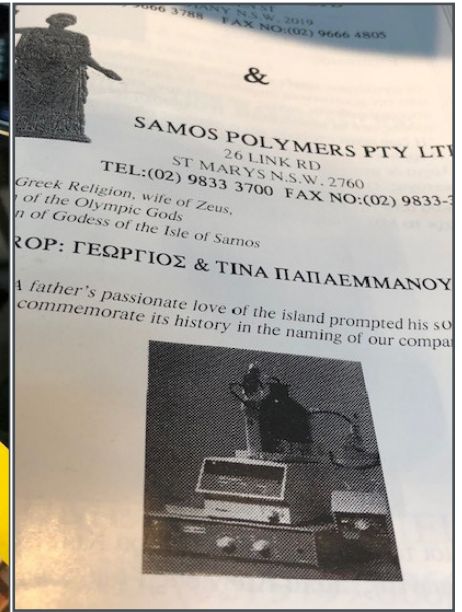
more information:
w.urethanecoatings.com.au
 2 9666 3888

KEEPING THIS AMAZING TIME PIECE LOOKING GOOD!

ERA POLYMERS: CLOSE YET SO FAR AWAY - SOCIAL EVENTS WHEN PHYSICALLY DISTANCING 2020



MEMORABILIA & THE YEAR THAT WAS 2020



FEATURED STORY (Cont'd from Page 1)

Era Polymers was also one of many manufacturers capable to pivot production resources, to produce hand sanitiser during a period of shortage, assisting in the cause to stem the tide of the Covid-19 pandemic.

We now look forward to new and hopefully, different challenges in 2021. As economies rebuild and new technologies develop,

“Era Polymers is only as good as its people”

Era Polymers will be well placed to support our customers in meeting their own objectives into the future.

As George often writes, “**Era Polymers** is only as good as its people”, the success we have achieved this year is directly attributable to the more than 160 committed **Era Polymers’** people working tirelessly across the world and across all time zones.

As we (finally) say goodbye to 2020, on behalf of the **Era Polymers** management team, I would like to thank all of our customers, suppliers, employees and friends, and wish everyone a very safe and healthy 2021.

John Eve
December 2020



COMFY CHOICES - Greenlink HR255

Era Polymers Greenlink HR255 a high resilient water blown flexible polyurethane foam. This material contains no halogenated raw materials and the ratios of **Greenlink HR255** can be changed to produce harder or softer foam depending on your requirements. Call us for more details.



HIT ME WITH YOUR BEST SHOT - ERAPOL GLASS LAMINATE

This specilaty system is the ideal choice for liquid laminating your glass. The adhesion between glass and polycarbonate is excellent and by using different combinations you can vary the application.

Properties:

- WATER CLEAR
- TWO COMPONENT
- CURES AT ROOM TEMPERATURE
- SOLVENT FREE
- FAST CURE
- QUICK TO APPLY
- LOW VISCOSITY

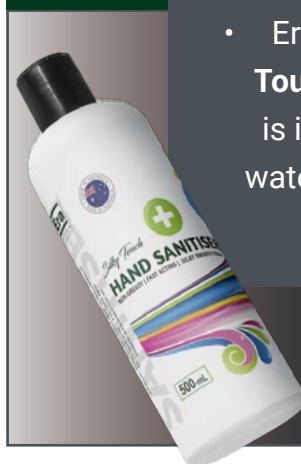
Applications:

- HOME AND LIVING AREAS
- OFFICE BUILDINGS
- SHOPPING MALLS
- CONSULAR AND EMBASSY BUILDINGS
- BALLISTICS
- CRIME PREVENTION

PRODUCT SPECIFICATION: GL65A

GL65A	PART A	PART B
Specific Gravity @ 25°C	1.2 ± 0.05	1.2 ± 0.05
Viscosity @ 25°C (cps)	300 ± 100	300 ± 100
Appearance @ 25°C	Water Clear	Water Clear

STAY SAFE Era Polymers Waterless Sanitising



- Era Polymers’ **Silky Touch Hand Sanitiser** is ideal for use when water and soap are not available.

The fast action formulation needs just **20 seconds** to waterlessly sanitise your hands leaving a fresh silky feel.

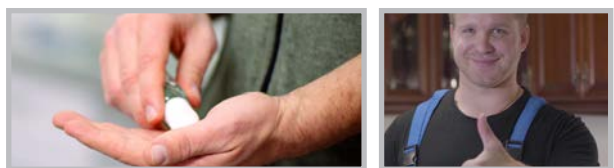
SANITISE MOBILE PHONE



SANITISE DOOR HANDLES



WORKPLACE: This product can be easily decanted into a pump action bottle to be used at the reception, kitchen, bathroom and common areas of your business. Ask us about our bulk supply options for re-use of your pump bottles. Unlike spray or foam formulations, **Era Polymers’** non-sticky gel formulation effortlessly glides to ensure full coverage of hands and wrists without drying out too quickly.



LONG LIVE ERAPOL ELASTOMERS!

Shelf Life and more...

1. Shelf Life and Storage

Most Erapol brand prepolymers have a shelf life of at least 12 months when stored unopened in their original containers at temperatures less than 30°C. The isocyanate content of all Erapol prepolymers will decrease by reaction with moisture or heat. Partial drums should be blanketed with dry nitrogen.



2. Effects of Heating the Prepolymer

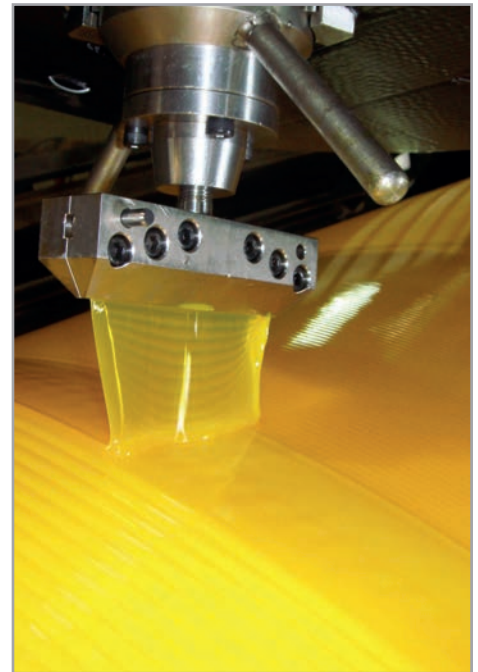
The isocyanate (NCO) content of all prepolymers decreases with time and especially with exposure to heat. The table below shows the accumulated time taken at various temperatures to degrade prepolymers.

Temperature/ °C	Time
60	7 days
70	3 days
80	36 hours
90	12 hours
100	8 hours



3. Toxicity

Erapol prepolymers contain reactive isocyanate groups and should be handled with care. Avoid inhalation of vapours and skin contact. Appropriate personal protective equipment (PPE) should be worn and adequate ventilation provided. For further information consult the Material Safety Data Sheets.



Physical Properties	Change
Hardness	Remains unchanged between 85-100 %
Tensile Strength	Maximum physical properties achieved between 90-95% theory.
Tear Strength	Maximum properties at 100-105% theory. Significantly lower outside the range.
Abrasion Resistance	Remains relatively unchanged between 85-105% theory. Slightly better at 100-105% theory.
Flex Life	Maximum property at 100-105% theory.
Elongation	Maximum at 100-105% theory.
Compression Set	Best at 85-95% theory.

ERA FAMILY - BIRTHDAYS



The wonderful feeling when the boss remembers you!
No matter where George is in the world, no matter what he's doing...
he remembers (and sometimes misses out on cake too!)



AUG

**GEORGE PAPAMANUEL - ERA POLYMERS
ASHLEY GREENHALGH - SAMOS ENA
SONJA VOLPE - ERA SOUTH AFRICA**

**NATHAN IAFETA - ERA NEW ZEALAND
PATRICK SEKLE - ERA USA
MARK NOOME - ERA SOUTH AFRICA
CON VOUROUDIS - ERA HEAD OFFICE
VARUNITA SAMLI - SAMOS DIO
JOELENE WARD - ERA SOUTH AFRICA
JOSIP SALOPEK - ERA HEAD OFFICE
JOHN DIAZ - ERA HEAD OFFICE**

SEPT



**JASON JOHNSON - ERA MELBOURNE
MATTHEW BETT - ERA HEAD OFFICE
ARLINGGA SUTINAH - ERA HEAD OFFICE
REY LOPEZ - ERA USA
NICOLE WILLIAMS - SAMOS ENA
CRYSTAL WOOTEN - ERA USA
GEORGE ZAVRAS - ERA HEAD OFFICE**

OCT



**CASSANDRE PERRON - ERA HEAD OFFICE
TERRY PETKOVIC - ERA HEAD OFFICE
MAREWA HUGHES - ERA NEW ZEALAND
DAVE WEIR - ERA HEAD OFFICE
SHAKA MADONSELA - ERA SOUTH AFRICA
SIMON LAVIS - ERA MELBOURNE
TONY HATZIKIRIAKOS - ERA HEAD OFFICE
KRISTIAN STOOKE - ERA MELBOURNE**

NOV



**DAVID PU - ERA HEAD OFFICE
NARAIN REDDY - SAMOS ENA
BECKY HARRIS - ERA USA
CASEY SUMMERELL - SAMOS ENA**

DEC



LINDA CANN - ERA SOUTH AFRICA
 CHRIS WOTTON - ERA HEAD OFFICE
 DOREEN SCROGGY - ERA HEAD OFFICE
 CHRISTINE LAWRENCE - ERA HEAD OFFICE
 LINDA LIU - ERA HEAD OFFICE

JAN



ERA POLYMERS - ANNIVERSARIES & MILESTONES



DOMINIC PEARSALL

Dominic Pearsall, Happy 15th Era Birthday. Yes, that suave sophisticated, Queensland

Sales Manager, celebrates another Era milestone. Paint a picture of a professional, doing his craft, to his maximum ability ... and you would end up with a picture of Dominic. He has the added benefit, of having the most disarming giggle. He stresses when things aren't going his / our way... and giggles when the ducks are all lined up. All in all... lots more giggles, come down our way.



EMILIE DEGOUE

Emilie, Is of course our super-efficient an classy, Chief Chemist in Elastomers.

She does things with aplomb...she thrives on stress and pressure. Nothing bothers her. She brought her eldest, Tom into my office a few weeks ago. Tom starts kindergarten this year ... so I guess that he is about 6 ? So, I asked him, does he have a girlfriend yet ? " Not yet, I'll get one when I start school". Perfect answer. Happy Era Birthday Emilie.



JASON JOHNSON

A special day, for a special person, working for a special company!! Jason is a senior operator at our Melbourne / Applied Polymers facility.

He lives and breathes this business.. does his job magnificently, does it all, with aplomb. Once upon a time there was a Greek philosopher , DIOGENES, who used to walk around with a lantern. When people would ask him what he was doing , he would answer that he was looking for a wise man. He definitely would have found ,Jason. " Life is a series of moments, and the more moments we can create, the fuller our lives can be ". "Just enjoy each moment as it comes " Howzat. Thank you Jason.



JOSIP SALOPEK

BOY, is that a special day, or what ...20 years ? BUT, I have a problem with Josip... IF, Josip has been here 20 years, he must have started with us ,when he

was 10 years old ... YES, he only looks about 30 !

Josip is , of course, part Indonesian . We have a glorious Indonesian customer ... Tomsir. I've known Tomsir for 35 years... He too is like Josip ... he's NOT ageing, either ! Tomsir looks about 40 . Is it the DNA... Is it the food ?! I'm jealous. Nonetheless, I digress. Josip is Era, Era is Josip.

Josip, said that he needs MORE stress, and challenges at Era... so he has accepted the role of Business Manager for our machinery business. He's under the tutelage of Terry, who REALLY, really, knows machines ... and Tony , our quintessential Master of Bonding. Perfect teachers , for a perfect employee. Thank you young man... keep doing , what you are doing.



JIMMY KOSTOUROS



Jimmy, Jimmy, wherefore art thou Jimmy...It's not Wednesday again is it ?!

I'm sure that we all can't remember a time when Jimmy , WASN'T here, can we ? Jimmy, is the KEEPER of the Physical testing laboratories. He is the KEEPER of all things Great and Small ... including my two snails . He is the KEEPER, of all the photos ,as we embarrassingly blow out those candles, on OUR Birthdays... remember them days ?! HE , with TONY , the KEEPER of the gym. When it comes to Bowling nights... Jimmy is the KEEPER who organizes it all.

Yes, he is definitely a KEEPER. Happy Era Birthday Jimmy. We couldn't do it without you.



MARICA GUBENKO

Happy, 25th Era Birthday, Marica. So, Marica joins that elite group of 25 year veterans! It has gone quickly eh?

Be the person
 YOU WANT TO WORK WITH.

ERA POLYMERS STAFF NEWS - India & Middle East

KRISHNENDU GHOSH - International Sales & Marketing

Era Polymers Pty Ltd, is pleased to announce that Krishnendu Ghosh has joined our International Sales Team.

Krish is based in Kolkata India, and will be responsible for Sales and Marketing activities in India and the Middle East. He brings to our company, 20 years of chemical experience... especially in the last 8 years, of specialising in the field of polyurethane chemistry. He has been, and will be involved with, the entire spectrum of Technical, Sales and Marketing activities in various chemical fields. Above all, he is a "people person", and very strongly believes in the ethos that;

"Business is People doing business with People"

He and his wife Mohua are blessed with a daughter, Harshita... and when he's not thinking about business, he likes to read science and history books, and especially likes photography.

Era Polymers, is an Australian family owned chemical company, specialising in the field of polyurethane chemistry. It exports to over 80 countries, and has 6 factories servicing it's global clients.



OUT & ABOUT: KAREN ANDREWS Minister for Industry, Science & Technology (Commonwealth Parliament of Australia 2020)



BUILDING RELATIONSHIPS. DELIVERING QUALITY. ERA POLYMERS OPERATIONS: WHERE & WHO

- **Era Polymers Head Office**2-4 Green St, Banksmeadow NSW Australia
- **R & D Centre** 25-27 Green St. Banksmeadow NSW Australia
- **Samos Ena**Links Road St Marys Australia
- **Samos Dio**Kommer place St Marys Australia
- **Samos Tria Applied Polymers**Ordish Road, Dandenong, Victoria Australia
- **Era Polymers South Australia**..... Rob McLean.
- **Era Polymers Queensland Australia**,.....Meadowbrook, Queensland Australia,.....Kim Charlesworth, Dominic Pearsall
- **Samos Tessera**Rangi Road, Takanini, Auckland New Zealand
- **Era Polymers NZ** Greymouth, New Zealand.....Nathan.
- **Samos Pente**Modderfontein, Johannesburg, South Africa
- **Era Polymers SA**Johannesburg, South Africa
- **Era Polymers Singapore**..... H.K. Moey.
- **Era Polymers Shanghai, China**Sven Wang.
- **Era Polymers Sao Paulo, Brazil**Rodrigo Rezende.
- **Era Polymers Milan, Italy**Stefano Tappari.
- **Era Polymers Athens, Greece**Markos Mavromatis.
- **Era Polymers, India**.....Krishnendu Ghosh.
- **Samos Exi - Era Polymers USA** Stanley,North Carolina, USA
- **Era Polymers, Connecticut, USA**.....Andy Clock.
- **Era Polymers, Pennsylvania, USA**.....Paul Waite.
- **Era Polymers, California**Miles MacArthur.

ERA FOAMS: VROOM VROOM!

AUTOMOTIVE APPLICATIONS

Bonding to other Materials

During the moulding process and under controlled conditions, Era Polymers polyurethane foam can be bonded to a wide variety of materials. Strong bonds can be obtained to substrates such as metals, wood and some plastics. Bond strengths often exceed the tear strength of the foam itself.

It is more difficult to bond cured polyurethane foam sheets or mouldings to other materials but special techniques have been developed to satisfy most requirements. We supply a complete range of bonding agents and primers to meet specific requirements.

Noise Reduction

A large part of the automotive industry is based on polyurethane foams for sound deadening and anti vibration applications. These foams, often called NVH (Noise Vibration and Harshness) foams, are part of the Era Polymers polyurethane foam range.



Polyurethane Foam in Automotive Applications

Polyurethanes are used extensively in cars to help reduce weight, increase fuel economy while providing comfort and safety, and provide excellent resistance to chemicals and weathering. An average, mid-size vehicle uses about 28 kg of polyurethane material.

In addition to the foam that makes car seats comfortable, bumpers, interior “headliner” ceiling sections and the car body, spoilers, doors



ERAPOL RIGID FOAMS

Block Foam Systems

Ratio	Densities	Hand Mixed	Machine Processed
100/100-200 (PI) by weight	32kg/m ³ to 150kg/m ³	✓	* High or Low Pressure Equipment

Applications

- INSULATED PANELS - PIR / PUR
- BUOYANCY
- SIGN BOARDS
- PIPE INSULATION
- THREE DIMENSIONAL SHAPES



SAMOS POLYMERS: SUPERIOR QUALITY, UNQUESTIONABLE EXCELLENCE... BECAUSE THE NEXT INSPECTOR IS THE CUSTOMER

Era Polymers manufacturing arm is **Samos Polymers** Australia's largest independent Polyurethane Systems House.

Samos Polymers has 6 state-of-the-art manufacturing facilities with a production capacity >220,000MT per year. Two production sites are located in Sydney, **Samos Ena** and **Samos Dio**, one in Melbourne, **Applied Polymers**, one in New Zealand, **Era New Zealand** one in South Africa, **Era Africa** and one in America, **Samos Exi**.

Teamed with our production partners in the Europe we have a total production capacity >320,000MT per year, enabling **Era Polymers** to supply high performance polyurethane products worldwide.

Samos Polymers' production sites **Samos Ena** and **Samos Dio** are split over two sites located in St Mary's, to the west of Sydney and have over 30,000m² of manufacturing and warehousing space.

Samos Ena a site of approximately 15,000m², specializes in polyurethane prepolymers manufacturing as well as our main warehousing and distribution centre. This facility is the largest of its kind in Australia, and one of the most advanced of its type in the world.

Samos Dio opened in August 2004 and is a large site covering more than 15,000m². This site adds manufacturing capacity specialising in the manufacture of polyurethane foam systems, coatings and waterproof membranes. **Samos Dio** has flammable goods rated manufacturing capability as road tanker loading facilities, making it easier to load and transport our bulk goods.

Samos Polymers offers flexibility
in Toll Manufacturing



For further information please contact **Samos Polymers**. Telephone: +61 2 9666 3788

ARRIVAL OF THE FITTEST: SAMOS POLYMERS

WORLD CLASS PACKAGING FACILITIES BUILT FOR YOU.

Manufacturing Capabilities

With six state-of-the-art manufacturing facilities, a production capacity >220,000MT per year, 160 employees and over 50 tanks and kettles (reactors) capacity are available to meet your production needs. **Era Polymers** are ISO 9001 Accredited and have NATA Accredited Testing Laboratories ensuring high quality polyurethanes at all times. With over 50 blending tanks and kettles with varying sizes **Samos Polymers** has the batch size flexibility for **TOLL MANUFACTURING** your formulation, and packaging the material into your preferred pack size, however large or small.

Cooking

Our specialty is the ability to cook high performance polyurethane prepolymers in vessels or reactors called KETTLES. The cooks are chemical reactions. These are mostly used in the production of polyurethane prepolymers for elastomers, or as intermediates for polyurethane foams, adhesives, sealants and coatings.

Currently kettles are available ranging in capacity from 100kg to 16,000 kg. Each kettle is assigned to manufacture the same type of polyurethane chemistry to avoid any cross contamination of raw materials. Some of the polyurethane chemistries available are TDI, MDI, Aliphatic (colour stable), Polyether's, Polyesters and Polycaprolactones. All kettles are highly temperature controlled to ensure materials are cooked with a high degree of accuracy.

Blending

Blends are materials which are mixed together at room temperatures with physical mixing as opposed to the chemical reaction of cooks. The blends are manufactured in vessels called TANKS. Currently materials are blended in tanks ranging from 60L to 10,000L in size.

Filled Blends

Some of our tanks are fitted with high speed dispersers and wall scrapers, allowing materials to be blended with high filler loadings. Fillers are often added for reasons varying from improving fire retardancy of materials, through to simply lowering the overall cost of the chemical.

Cold Storage

On-site freezers have the capacity to store 1,400 drums at -15°C. Although these freezers are used to store chemicals used in our manufacturing process, these are also available to store other frozen chemicals on a warehousing rate.

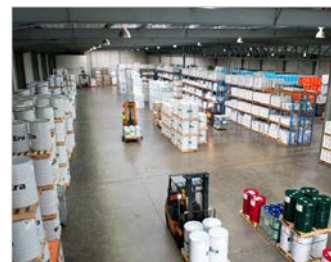
Flammable Cooking & Storage

Samos Dio contains a flammable cooking area. This allows the manufacture of materials which contain flammable solvents, in a purpose-built area. The capacity of the kettles in this area are 600L, 4000L and 16,000L. In order to support this area, hundreds of drums of flammable

raw materials can be warehoused as well as finished goods in an internal flame proof storage area.

Melting Capacities

Often raw materials used in the cooking processes are solid in their normal state. **Samos Polymers** has an enormous amount of melting capacity on-site in the form of "hot boxes" which



PRIVATE LABELLING

PACKAGING MULTIPLE SIZES & PRIVATE LABELLING

Packaging manufactured goods can be done in standard White or Green containers or can package into your preferred containers for toll manufactured products.

- Available packaging ranges from 1L to (4L, 20L, 60L, 200L,)
- 1000L Intermediate Bulk Containers (IBC), and Road Tankers.

Private labelling is also a specialty, where your company's logo and details are printed onto the label.

MACHINE DEPARTMENT

SUMMERS EQUIPMENT

SUMMER LOVIN'

Summers Equipment Inc. manufactures innovative equipment used for material processing.

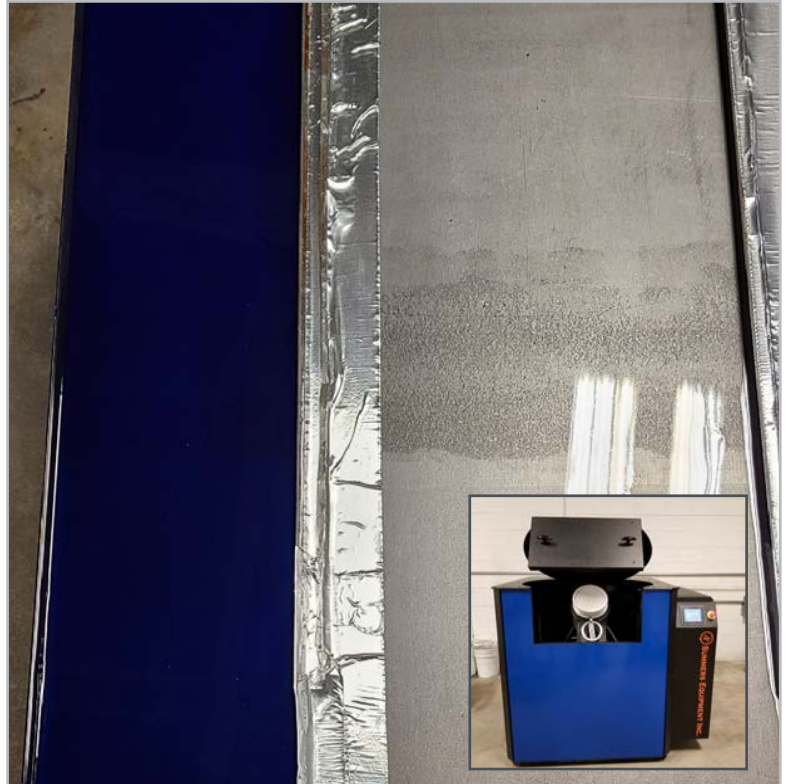
At Era Polymers, we, and Summers Equipment, are committed to providing the highest levels of equipment reliability and effective customer service in the industry. With their in-house design team, we offer both standard and custom-built equipment, designed to increase both the manufacturing efficiency and quality of our customers' products.

Summers' in-house design and fabrication team have over 15 years of experience

manufacturing custom equipment for processing urethanes.

The exciting and new revolutionary machine, the Dual Drive Planetary Mixe allows the operator to control the mixing bucket speed and arm rotational speed independently of each other. This unique design allows for mixing of a wider range of different materials and viscosities available in the Era Polymers 'Erapol' range.

For more information:
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THE LIGHTER SIDE

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SCIENCE
BECAUSE FIGURING
THINGS OUT IS
BETTER
THAN MAKING
STUFF UP

dreams
don't
work
unless
you do.



FELIZ NAVIDAD
$$\left[\frac{y_2 - y_1}{x_2 - x_1} (2, 71828 \dots)^{r^2 y} \right] \text{chr}(\sqrt{-1}) st +$$

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Editors: Marketing Department
Victoria Zavras | Nicola French

Era
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