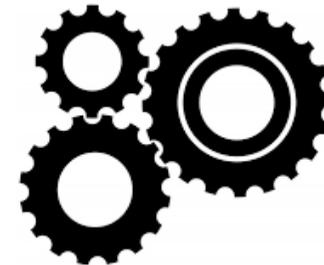
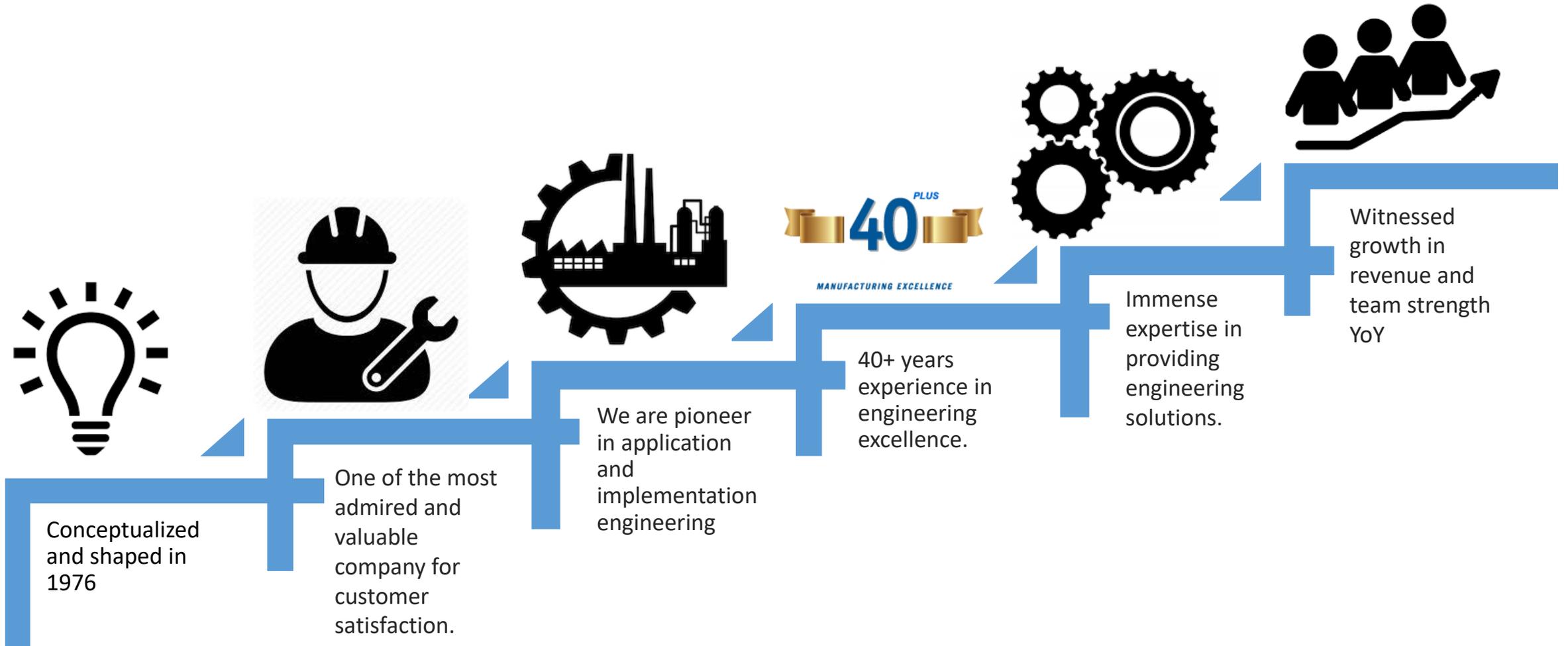


**KERONE**

**Complete Engineering Solutions...**

# Who are we...



# We are accredited by...

Member of AIMCAL



Member of IHEA



Strategic Partners of  
Emitech Italy



IRQAO Certified For  
Quality



Recognized and Rated by  
CRISIL



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Member of A.M.P.E.R.E.  
(Europe)



ASCB(E) Certification for  
Best practice



**ISO 9001:2008 | ISO 9001:2015 | OHSAS 18001 | EMS 14001**

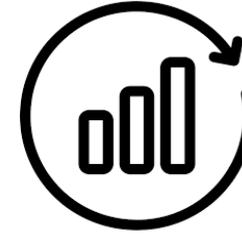
# Why We...



**Highly Customized  
Product**



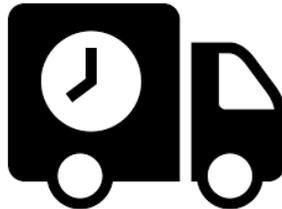
**Adherence  
to Standards**



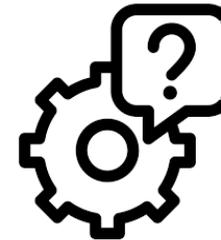
**Cost Effective  
Solutions**



**Sound  
Infrastructure**



**Timely  
Delivery**



**Great After  
Sale Support**

# Why Microwave for Treating Rubber...

Uniform heating occurs throughout the material  
Process speed is increased.

Desirable chemical and physical effects are produced.

Floor space requirements are decreased.

Better and more rapid process control is achieved.

Selective heating i.e. heating selectively one reaction component.

High efficiency of heating.

Direct utilization of large-sized feedstocks

Process speed is increased.

Purity in final product.

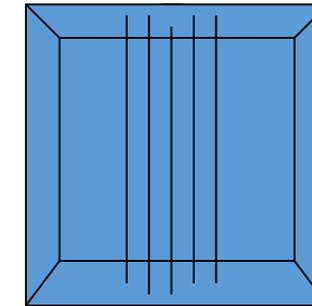
Reduction in unwanted side reaction (reaction Quenching)

No fumes and pollutants

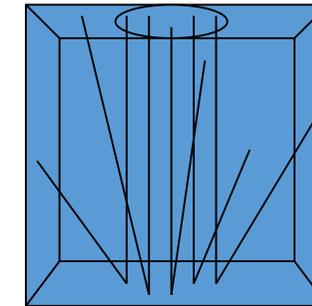
Improve reproducibility

Environmental heat loss is save, Reduce wastage of heat

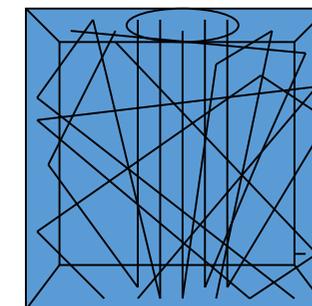
Overall cost effectiveness/savings



Stage 1- Wave Emission

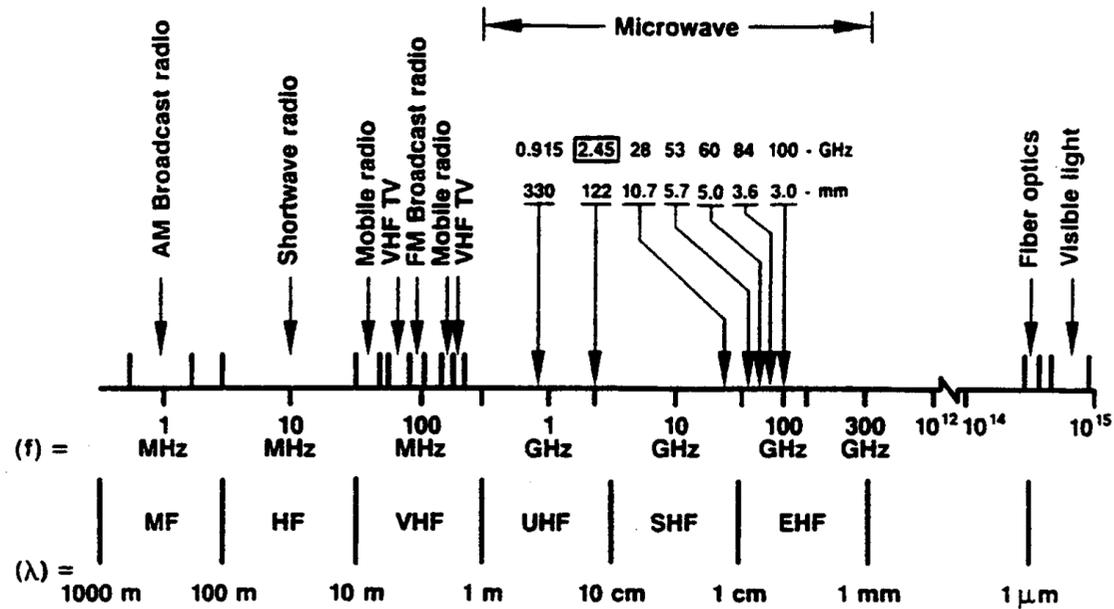


Stage 2- Wave Reflection



Stage 3- Wave dispersion

# Electromagnetic Spectrum...



Microwave heating systems are member of Electromagnetic heating family.

Microwaves has frequency of 2.45Ghz and 950Mhz.

Microwave is generated from small device known as Magnetron.

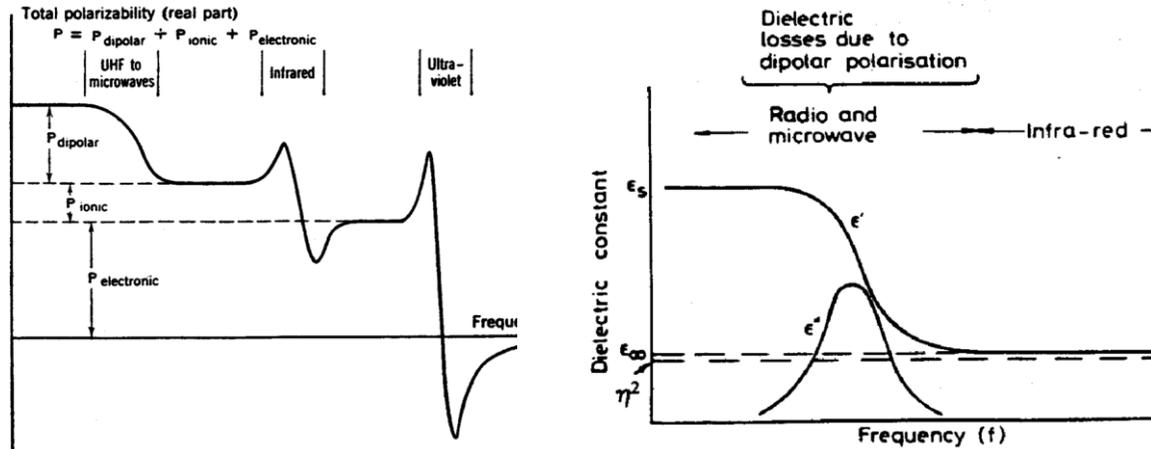
Microwave heating system has property to heat from within.

Microwave heating systems heats volume of material hence also known as 'Volumetric Heating'.

# Microwave Heating

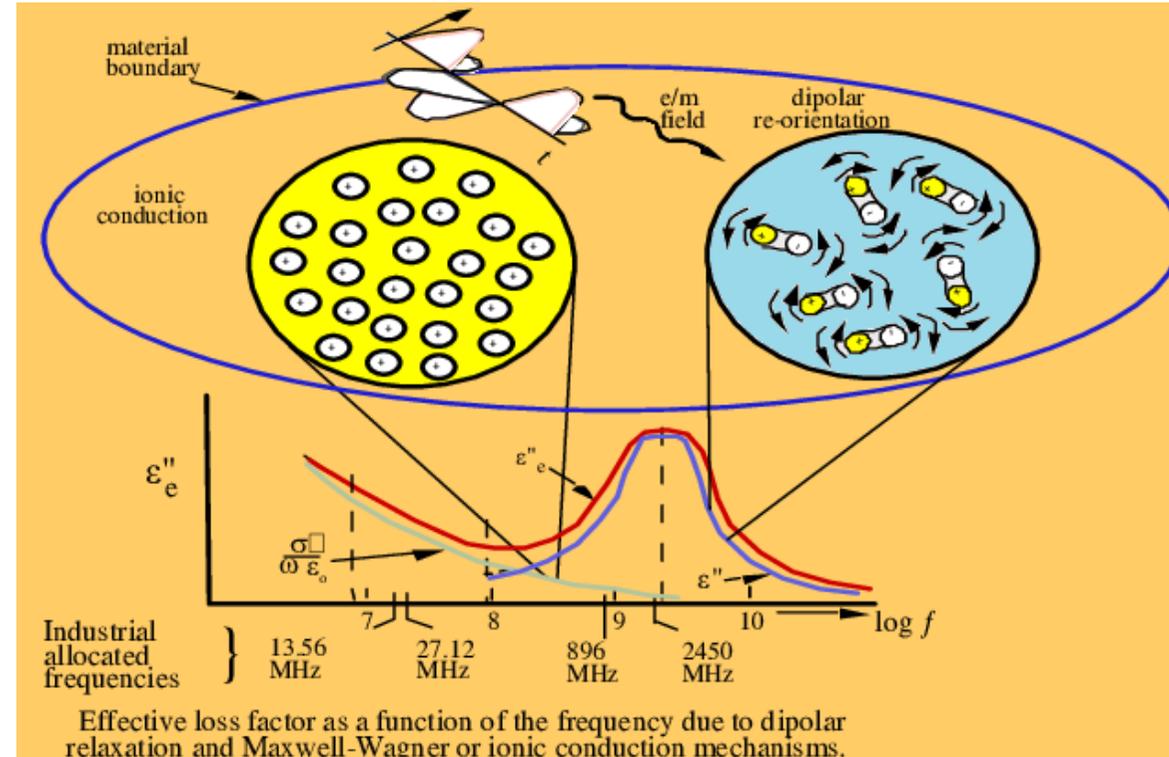
## Dielectric Properties

- Indicator of how material will heat
- Tool in developing microwave heating processes



Polarizability and Dielectric Properties as Function of Frequency

## Dielectric Loss increases with Temperature



# Microwave Heating in Rescue...

## Microwave Heating System

Microwave heating system is generates the heat very fast within material.

Heating of materials are due to molecule movements hence no chamber warm up time is required.

Environmental friendly and green heating solution, no carbon emission.

100% energy utilization, as heating takes place within the material.

Better floor utilization index as it doesn't require chamber area.

No Temperature loss in surrounding, ambient workplace.



## Conventional Heating System

Conventional heating system have slow hating rate, heat is transferred via means of air.

Instance heating does not takes place, it requires warm-up of surrounding.

Produces carbon or toxic gases hence not much environmental friendly heating solutions.

100% energy utilization is not possible, as material is heated by surrounding hot air.

Poor floor utilization index as it require bigger chamber area for material to rotate.

Surrounding air temperature rises with rise in heater temperature.

# Features of Microwave in Rubber...

Longer functional life

Low and easy maintenance

Quick and Easy installation

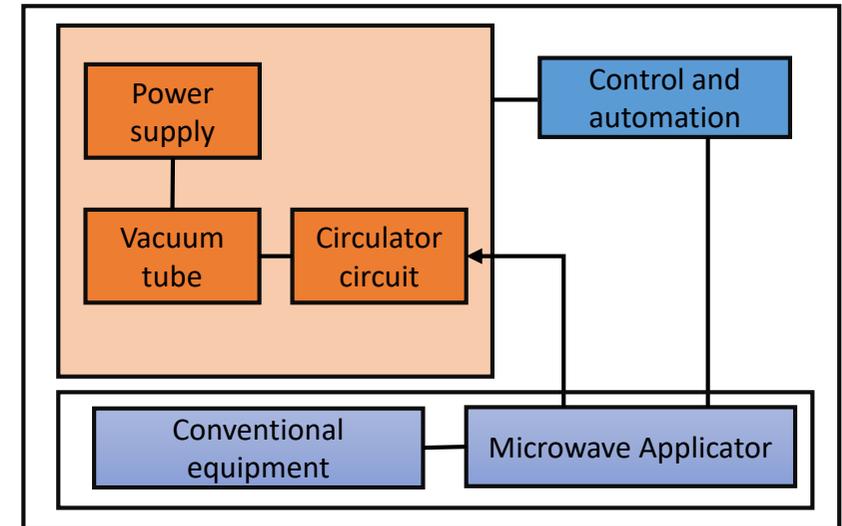
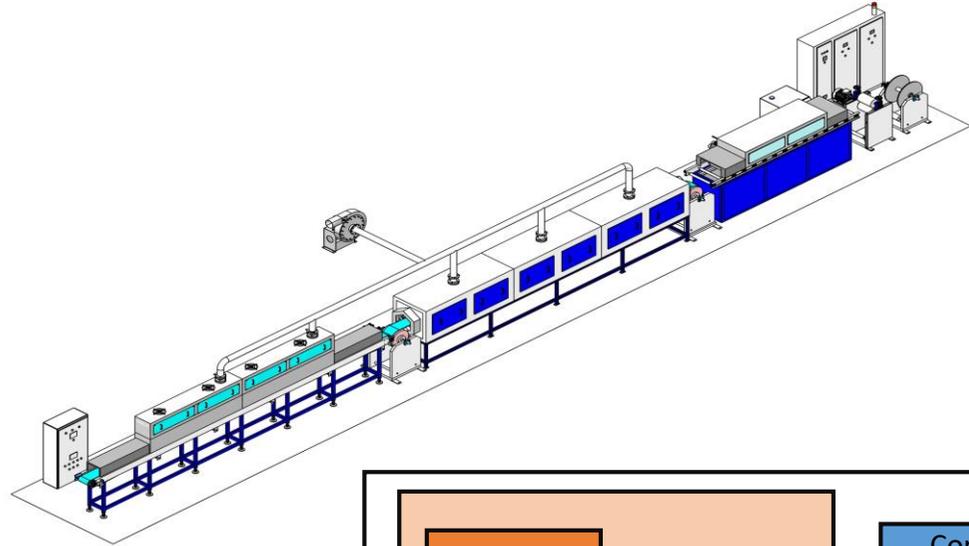
Precisely designed and engineered

Hassle-free functioning

Rugged construction and High durability

Energy and Cost efficient

Power saving and Efficient performance



# Why to Preheat Rubber...

Preheating is the process that is performed on rubbers before moulding and vulcanization

The preheated rubber has lower inner tension hence the process becomes more fluent

The time required for the processing will be reduced



Pre-heated rubber reduces the curing time and allows the rubber to flow easily and fill the mold cavity efficiently

Pre-heating reduces the vulcanization time by approximately 40%

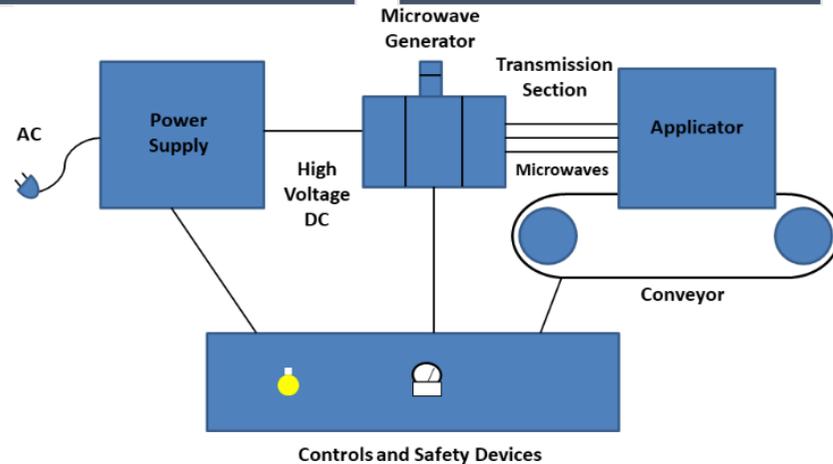
# Applications of Microwave in the Rubber Industry...

Continuous  
Vulcanization

Bale Pre-Heating

Microwave Boost

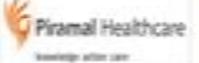
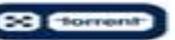
Continuous Heating  
of Hose



# Trusted Partner of following consultants...



# Our Clients...

# Serving Across Borders...





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