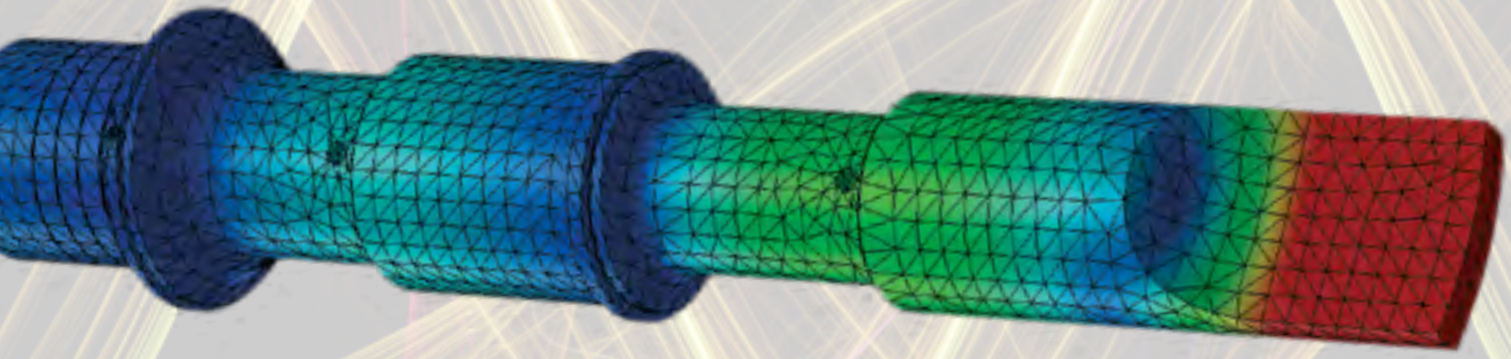
FREZITE®

Cutting and Welding Systems by Ultrasound

FREZITE Group

/YOUR CUTTING EDGE PARTNER



Ultrasound System

The experience acquired by FREZITE over more than four decades of existence, along with the innovative spirit and continued investment in cutting-edge technology, led the company to develop the area of cutting and welding by ultrasound.

In this way FREZITE presents a more effective answer to the extensive and growing number of materials, their applications and transformation processes increasingly common in the plastics, textile, automotive, food industries, among others.

In the various sectors we create customized solutions oriented to maximum efficiency in production, ensuring profitability for our customers.

Components

- **High Frequency Generator** – depending on the requirements and characteristics of each application, FREZITE presents high frequency generator solutions of 20, 30 or 40 kHz, with different power and control options.
- **Transducer** – the function of the transducer is to convert the high frequency produced by the generator in mechanical vibration.
- **Booster** – multiplies the vibration amplitude between the transducer and the sonotrode.
- **Sonotrode** – the sonotrode is the component that is in direct contact with the material to be processed, being its configuration and vibration characteristics defined according to the application.

Generator

With frequencies of 20, 30 and 40 kHz.

Transdutor

Standard components for frequencies of 20, 30 and 40 kHz.

Booster

Allows different earnings: x2, x0.5 or customized.

Sonotrode

Presents different settings, depending on the application.

FREZITE®

Advantages

Ultrasonic Welding

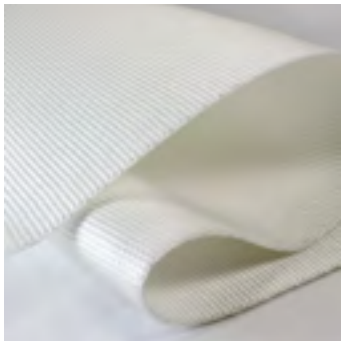
- No glues or adhesives needed;
- Short welding time (in the order of tenths of a second);
- Flexible and energy efficient system;
- Avoids material damage (the scratching, in the case of fabrics);
- Eliminates the risk of tissue burns;
- Prevents the emission of toxic fumes;
- Operates cold – eliminating system downtime for heating;
- Ensures cut and fusion in the same operation.

Ultrasonic Cutting

- High cutting accuracy;
- Allows cuts in different paths;
- Ensures excellent cutting quality;
- Reduces cutting stresses, avoiding product deformation;
- Reduces waste resulting from cutting;
- Cutting speed significantly increased;
- Flexible, easy integration into existing production lines;
- Ensures clean, consistent and uniform cutting.

Target Industries

Packaging



Textile

Plastic components

Medical devices and protective gear

Food

Automotive
(car covers, airbags)

Leather and other materials

Table of Compatibility of Thermoplastics in Ultrasonic Welding

	ABS	ABS / Polycarbonate	Acetal (POM – Polyoxymethylene)	Acrylic	Acrylic Multipolymer	Liquid Crystal Polymers	Nylon	Phenylene Oxide (PPO)	Polycarbonate	Polycarbonate / Polyester	Polyester (PBT)	Polyester (PET)	Polyetherether Ketone	Polyetherimide (PEI)	Polyethylene (PE)	Polyphenylene Ether / Oxide	Polyphenylene Sulfide (PPS)	Polypropylene (PP)	Polystyrene	Polysulfone (PSU)	Polyvinylchloride (Rigid PVC)	*SAN / NAS	Styrene Block Copolymers (SBC)
ABS	■	■		■																			□
ABS / Polycarbonate	■	■		□					□				■							□			
Acetal (POM – Polyoxymethylene)			■																				
Acrylic	■	□		■	□				■	□												□	□
Acrylic Multipolymer	■	□		□	■																	□	
Liquid Crystal Polymers						■																	
Nylon							■																
Phenylene Oxide (PPO)								■	□										■			□	
Polycarbonate		■		■					■	□													
Polycarbonate / Polyester		□		□					□	■	□												
Polyester (PBT)										□	■												
Polyester (PET)												■											
Polyetherether Ketone													■										
Polyetherimide (PEI)														■									
Polyethylene (PE)															■								
Polyphenylene Ether / Oxide																■							
Polyphenylene Sulfide (PPS)																	■						
Polypropylene (PP)																		■					
Polystyrene	□							■											■			□	□
Polysulfone (PSU)																				■			
Polyvinylchloride (Rigid PVC)																					■		
***SAN / NAS**	□			□	□			□											□			■	
Styrene Block Copolymers (SBC)	□			□															□				■

*Poly (Styrene Maleic Anhydride) / Methyl Styrene Methacrylate Copolymer

■ Good compatibility □ Variable compatibility, depending on material composition

Need help?

sales@frezite.com

PORTUGAL
FREZITE - Ferramentas de Corte, S.A.
Rua do Vau, 173 · Apartado 134
4786 - 909 Trofa
+351 252 400 360
info@frezite.com
www.frezite.com

BRAZIL
FREZITE - Ferramentas de Corte, Ltda
Rua Otto Emilio Beckert, 85-C
Boehmerwald - S. Bento do Sul
SC CEP 89287-665
+55 47 3635 2065
comercial.brasil@frezite.com
www.frezite.com.br

SPAIN
FREZITE - Herramientas de Corte, S.L.
C/ Charles Robert Darwin 11, local N.° 5
Parque Tecnologico,
46980 Paterna (Valencia)
+34 963 135 131
info.es@frezite.com
www.frezite.com

MEXICO
FMT Tooling Systems, S. de R.L. de C.V.
Avenida Industrias N° 4700, Int 2
Zona Industrial C.P. 78395
San Luis Potosí, SLP
+52 444 799 7453
info.mx@fmtooling.com
www.frezite.com

GERMANY
GOLD Werkzeugfabrik GmbH
Schnaitbergstr.1
D-73457 Essingen
+49 (0) 7365 9648 720
info@gold-tools.de
www.gold-tools.de

mod.MK1.137B 08/2023