

Ultrasonic Couplants

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Ultrage II

High Performance Ultrasonic Couplant

Ultrage® II is an industry-leading, high-performance, ultrasonic couplant for flaw detection and sizing, thickness gauging, flow metering and acoustic emission testing.

Benefits

- Clings well to vertical and overhead surfaces
- Fills in depressions in rough surfaces
- Highest corrosion protection
- Slow drying for longer inspection time
- Provides good transducer lubrication
- Increased acoustic impedance reduces surface noise
- Wide range of specifications and approvals
- Thixotropic gel
- Great surface wetting
- Nuclear grade
- Aerospace approvals
- Hydrogen embrittlement testing

Part Numbers

- 25-912:** 12 fl oz / 354 mL bottles (case of 12)
- 25-901:** 1 gal / 3.78 L cubitainer
- 25-905:** 5 gal / 18.9 L cubitainer
- 25-955:** 55 gal / 208 L drum

Product Properties

NDT Type	Comparative Viscosity	Compatibility
Ultrasonic Testing	5.0	Most composites and metals



Soundsafe

High Performance Ultrasonic Couplant

Soundsafe® is a high-performance, general-purpose ultrasonic couplant for flaw detection and sizing, thickness gauging, flow metering and acoustic emission testing.

Benefits

- Wide range of specifications and approvals
- Great surface wetting for fast, even coverage
- Thixotropic gel
- Non-toxic, non-irritating formula
- Increased acoustic impedance reduces surface noise
- Clings well to most vertical and overhead surfaces
- Highest corrosion inhibition
- Provides good transducer lubrication
- Slower drying for extended inspection time
- Nuclear grade
- Aerospace approvals
- Hydrogen embrittlement testing

Part Numbers

- 20-901:** 1 gal / 3.78 L
- 20-905:** 5 gal / 18.9 L
- 20-955:** 55 gal / 208 L drum

Product Properties

NDT Type	Comparative Viscosity	Compatibility
Ultrasonic Testing	5.25	Most composites and metals



Sonotrace 30

General-Purpose Ultrasonic Couplant

Sonotrace® 30 is a general-purpose ultrasonic couplant in medium-thick gel viscosity for flaw detection and thickness gauging applications. This glycerin-free couplant is a great choice for applications requiring minimum halogens, sulfur and low melting point metals, and offers good performance at a lower price point.

Part Numbers

- 42-901:** 1 gal / 3.78 L
- 42-905:** 5 gal / 18.9 L
- 42-955:** 55 gal / 208 L drum

Product Properties

NDT Type	Comparative Viscosity	Compatibility
Ultrasonic Testing	4.5	Most composites and metals



Echogel 20

Economical Ultrasonic Couplant

Echogel® 20 is an economical, basic-use couplant in medium-thick gel viscosity for ultrasonic inspections, like flaw detection/sizing and thickness gauging, where salt cake or metal corrosion salts are present. It provides good corrosion inhibition and resists viscosity breakdown on salt-caked boilers and other corroded materials.

Part Numbers

- 48-901:** 1 gal / 3.78 L
- 48-905:** 5 gal / 18.9 L
- 48-955:** 55 gal / 208 L drum

Product Properties

NDT Type	Comparative Viscosity	Compatibility
Ultrasonic Testing	5.5	Most composites and metals



UT-X Powder

Ultrasonic Couplant Powder

UT-X® Powder is a cost-effective couplant powder for flaw detection and thickness gaging applications where ferrous corrosion inhibition is required.

Part Numbers

- 62-110:** 1 gal / 3.78 L
- 62-510:** 5 gal / 18.9 L

Product Properties

NDT Type	Viscosity	Compatibility
Ultrasonic Testing	Variable	Most composites and metals



Sono 600

High-Temperature Ultrasonic Couplant

Sono 600 is a versatile, multi-purpose couplant with a wide operating temperature range for flaw detection, thickness gauging and acoustic emission testing in petrochemical, power generation, automotive, aerospace, food processing equipment and pharmaceutical manufacturing.

Benefits

- Economical high-temperature couplant
- Excellent corrosion inhibition
- Very slow drying for extended inspection time or long-term coupling
- Non-toxic, biodegradable formula

Part Numbers

45-6XT04: 4 fl oz / 118 mL tubes (case of 6)
45-901: 1 gal / 3.78 L

Product Properties

NDT Type	Comparative Viscosity	Compatibility
Ultrasonic Testing	Thick Gel	Most composites and metals



Sono 1100

High-Temperature Ultrasonic Couplant

Sono 1100 provides coupling for high-temperature thickness gauging and will maintain acoustic coupling at high temperatures beyond 15 seconds to give ample time to obtain thickness readings. In most cases, the signal strength increases with time to the point of the couplant's thermal decomposition.

Benefits

- Extended open time window for longer inspections or to optimize thickness readings at high temperatures
- Medium viscosity paste
- Non-toxic, non-irritating formula
- Excellent corrosion inhibition

Part Numbers

30-6XT04: 4 fl oz / 118 mL tubes (case of 6)
30-901*: 1 gal / 3.78 L
** One (1) week lead time. Minimum order quantity is two (2) 1 gallon jugs.*

Product Properties

NDT Type	Comparative Viscosity	Compatibility
Ultrasonic Testing	Medium Paste	Most metals



Pyrogel 100

Wide Temperature Range Ultrasonic Couplant

Pyrogel® is a broad temperature range couplant for thickness gauging, flow metering, acoustic emissions testing and flaw detection/sizing. These products contain no polymers and resists drying, making them an excellent choice for long term flow metering applications.

Benefits

- Broadest temperature range
- Non-drying for long-term coupling or extended inspection time
- Good choice for long-term flow metering
- Excellent long-term corrosion inhibition
- Pyrogel 100 clings well to vertical and overhead surfaces

Part Numbers

24-6XT04: 4 fl oz / 118 mL tubes (case of 6)

24-901*: 1 gal / 3.78 L

** One (1) week lead time. Minimum order quantity is two (2) 1 gallon jugs.*

Product Properties

NDT Type	Comparative Viscosity	Compatibility
Ultrasonic Testing	Thick Gel	Most composites and metals



Pyrogel 7

Wide Temperature Range Ultrasonic Couplant

Pyrogel® is a broad temperature range couplant for thickness gauging, flow metering, acoustic emissions testing and flaw detection/sizing. These products contain no polymers and resists drying, making them an excellent choice for long term flow metering applications.

Benefits

- Broadest temperature range
- Non-drying for long-term coupling or extended inspection time
- Good choice for long-term flow metering
- Excellent long-term corrosion inhibition

Part Number

21-901*: 1 gal / 3.78 L

** One (1) week lead time. Minimum order quantity is two (2) 1 gallon jugs.*

Product Properties

NDT Type	Comparative Viscosity	Compatibility
Ultrasonic Testing	Thin Liquid	Most composites and metals

Ultragegel II

Ultrasonic Couplant

Ultragegel® II is an industry-leading, high-performance, ultrasonic couplant for flaw detection and sizing, thickness gauging, flow metering and acoustic emission testing.

Ultragegel II is widely recognized as the industry's most dependable and popular ultrasonic couplant. This general-purpose medium viscosity gel is known for its outstanding performance, excellent corrosion protection, thixotropic properties and comprehensive range of specifications and approvals.

Ultragegel II is Pratt & Whitney approved and meets nuclear grade specifications for halogen and sulfur levels.



BENEFITS

- Aerospace Specifications Compliance
- Outstanding performance for a diverse range of applications, including vertical and overhead surfaces
- Slow drying time for extended inspection time or long-term coupling
- High corrosion protection to safeguard parts

FEATURES

- Fills in depressions in rough surfaces
- Provides good transducer lubrication
- Increased acoustic impedance reduces surface noise
- Thixotropic gel
- Great surface wetting
- Nuclear grade
- Hydrogen embrittlement testing

SPECIFICATION COMPLIANCE

- API
- ASTM F519
- ASME
- AWS
- ASTM F945
- ASTM F945 or PWA 36604, MCL E-205 Type II
- Pratt & Whitney PMC 4384

APPLICATIONS

Ideal for:

- Flaw detection
- Flaw sizing
- Thickness gauging
- Flow metering
- Acoustic emission testing
- Vertical or overhead surfaces
- Weld inspection
- Rough surfaces
- Aerospace inspections
- Nuclear inspections
- Composites
- Turbine blades
- Aircraft wheel maintenance

PROPERTIES

Appearance	Transparent gel
Color	Bright blue
Comparative Viscosity*	5
Silicone	No
Glycerin	Yes
Propylene Glycol	Yes
Halogens	< 50 ppm
Sulfur	< 50 ppm
Water Soluble	Yes

* Subjective measure, 0–10 scale where 0 = water, 5 = medium gel, 10 = very thick paste

USE RECOMMENDATIONS

NDT Method	Ultrasonic Testing
Required Equipment	UT equipment, transducer
Usage Temperature‡	-10 to 210°F / -23 to 99°C
Storage Temperature	50 to 86°F / 10 to 30°C
Compatibility	Most composites and metals†

† Couplant integrity and acoustic performance may decline beyond these temperature limits.

‡ May darken or discolor magnesium.

INSTRUCTIONS FOR USE

Apply a small amount of couplant to the transducer or inspection area before measurement.

REMOVAL

Remove couplant with water rinse (warm/hot water recommended), isopropyl alcohol or 100% ethyl alcohol.

STORAGE

Store couplant in the original container. Do not freeze. Store out of direct sunlight. Keep container closed when not in use. Never put unused couplant back into the original storage container. If pumps or valves are used to dispense bulk couplant, wash them thoroughly between drums to avoid contaminating new product. Refer to Safety Data Sheet for additional storage instructions.

PART NUMBERS & PACKAGING

Ships to	Packaging	Part Number
North America, Asia and Oceania	12 fl oz / 354 mL bottles (case of 12)	25-912
	1 gal / 3.78 L cubitainer	25-901
	5 gal / 18.9 L cubitainer	25-905
	55 gal / 208 L drum	25-955
Europe, Middle East, Africa & Russia	1 gal / 3.78 L cubitainer	25-901
	5 gal / 18.9 L cubitainer	25-905

HEALTH AND SAFETY

Review all relevant health and safety information before using this product. For complete health and safety information, refer to the product Safety Data Sheet, which is available at www.magnaflux.com.

Sono 600

High-Temperature Ultrasonic Couplant

Sono 600 is a versatile, multi-purpose couplant with a wide operating temperature range for flaw detection and thickness gauging in petrochemical, power generation, automotive, aerospace, food processing equipment and pharmaceutical manufacturing.



BENEFITS

- Outstanding performance for a diverse range of applications, including vertical and overhead surfaces
- Very slow drying time for extended inspection time or long-term coupling
- High-temperature rating and high-flash point to minimize risks of ignition and ensure inspector safety
- High corrosion protection to safeguard parts

FEATURES

- Non-toxic, biodegradable formula

SPECIFICATION COMPLIANCE

- API
- ASME
- AWS

APPLICATIONS

Ideal for:

- Flaw detection
- Thickness gauging
- Acoustic emission testing
- Flow metering
- High temperature ultrasonic testing
- Boilers
- Transmission pipes
- OCTG inspections
- Pressure vessels
- Pipes, tubular goods, casing and connections
- Automotive
- Aerospace
- Food processing
- Pharmaceutical manufacturing

USE RECOMMENDATIONS

NDT Method	Ultrasonic Testing
Required Equipment	UT equipment, transducer
Usage Temperature‡	0 to 700°F / -18 to 371°C
Storage Temperature	50 to 86°F / 10 to 30°C
Compatibility	Most composites and metals

‡ Recommended temperature based on Flash Point and Auto-ignition Temperature. In areas where flame or other ignition source may be present, or in applications where vapors may be confined in an enclosed or semi-enclosed area, these products should not be used above the flash point temperature.

PROPERTIES

Appearance	Transparent gel
Color	Amber
Viscosity	Thick gel
Silicone	No
Glycerin	No
Propylene Glycol	Yes
Halogens	<50 ppm
Sulfur	<50 ppm
Water Soluble	No
Flash Point*	439°F / 226°C
Auto-ignition Temperature†	788° / 420°C

* Flash point temperature determined in accordance with ASTM Method D92 using the Cleveland Open Cup method. In areas where vapors may be confined in an enclosed or semi-enclosed area, the actual flash point of this product may be lower than recorded.

† Auto-ignition temperature determined in accordance with ASTM Method E659.

INSTRUCTIONS FOR USE

In most applications, the transducer is best coupled with the thinnest layer of couplant possible. Apply a small bead of couplant directly to the center of the transducer face and push the transducer down onto the test surface with a uniform force so the couplant spreads out evenly towards the edge of the transducer.

In high-temperature applications it is recommended that extra care is taken to use just enough couplant to perform the test procedure as excess couplant may increase vapors which can pose a flash hazard.

Extreme-Temperature Guidelines

Before use, make sure the surface temperature of the test piece does not exceed the maximum specified temperature for the application and environmental conditions.

At high temperatures, couplants evaporate relatively quickly; more couplant may be required near the upper end of the operating temperature range to compensate for evaporation. Care should be taken to avoid using excess couplant as this may lead to increased vapors which can pose a flash hazard.

The flash point of a material is the lowest temperature at which it can vaporize to form an ignitable mixture in air. At the flash point temperature, the material vapor will flash only if an ignition source is present and the vapor may cease to burn when the ignition source is removed. In areas where vapors may be confined in an enclosed or semi-enclosed area, the flash point of a material may be lower than the recorded value.

The auto-ignition temperature of a material is the lowest temperature at which it will spontaneously ignite in a normal atmosphere without an external source of ignition, such as a flame or spark.

Environmental or atmospheric factors will affect auto-ignition temperature; therefore it is important to observe a suitable safety margin in conjunction with auto-ignition temperature.

Smoke develops as the couplant begins to decompose due to heat exposure. Smoke is not an indication the couplant is not working, but it does indicate the effective coupling time is limited. Smoke produces vapors which may lower the couplant flash point, particularly in enclosed or semi-enclosed areas.

REMOVAL

Remove excess couplant from transducers and other surfaces by wiping with disposable rags or paper towels, being careful to protect skin from hot surfaces.

Do not use solvent-based cleaners on hot surfaces.

STORAGE

Store couplant in the original container. Do not freeze. Store out of direct sunlight. Keep container closed when not in use. Never put unused couplant back into the original storage container. Refer to Safety Data Sheet for additional storage instructions.

PART NUMBERS & PACKAGING

Ships to	Packaging	Part Number
North America, Asia and Oceania	12 fl oz / 354 ml bottle (case of 12)	45-912
	1 gal / 3.78 L cubitainer	45-901
Europe, Middle East, Africa & Russia	1 gal / 3.78 L cubitainer	45-901UK

HEALTH AND SAFETY

Extra care should be taken when operating with couplants in high-temperature applications; refer to Extreme-Temperature Guidelines for pertinent information regarding couplant behavior and properties at high-temperatures.

Review all relevant health and safety information before using this product. For complete health and safety information, refer to the product Safety Data Sheet, which is available at www.magnaflux.com.

Echogel

Ultrasonic Couplant

Echogel 20® is an economical, basic-use couplant in medium-thick gel viscosity for ultrasonic inspections, like flaw detection/sizing and thickness gauging, where salt cake or metal corrosion salts are present. It provides good corrosion inhibition and resists viscosity breakdown on salt-caked boilers and other corroded materials.



FEATURES

- Enhanced surface wetting to quickly cover oily or dirty surfaces
- Maintains viscosity on corrosion or salt cake
- Good corrosion inhibition
- Silicone free
- Hydrogen embrittlement testing

APPLICATIONS

Defect location: subsurface

Ideal for:

- Flaw detection
- Flaw sizing
- Thickness gauging
- Power generating boilers
- Corroded parts
- When corrosion, salt, or salt cake is present
- Large volume flaw inspections
- Small diameter pipe
- Weld inspection
- High strength steel
- OCTG
- Tubular goods
- Pipes, pipe components, connections and couplings

SPECIFICATION COMPLIANCE

- API
- ASTM F519
- ASME
- AWS

PROPERTIES

Appearance	Transparent gel
Color	Light green
Comparative Viscosity*	5.5
Silicone	No
Glycerin	No
Propylene Glycol	Yes
Halogens	< 50 ppm
Sulfur	< 50 ppm
Water Soluble	Yes

* Subjective measure, 0–10 scale where 0 = water, 5 = medium gel, 10 = very thick paste

USE RECOMMENDATIONS

NDT Method	Ultrasonic Testing
Required Equipment	UT equipment, transducer
Usage Temperature[†]	27 to 140°F / -3 to 60°C
Storage Temperature	50 to 86°F / 10 to 30°C
Compatibility	Most composites and metals

[†] Couplant integrity and acoustic performance may decline beyond these temperature limits.

INSTRUCTIONS FOR USE

Apply a small amount of couplant to the transducer or inspection area before measurement.

REMOVAL

Remove couplant immediately after inspection before the couplant dries with water rinse or a combination of water rinse and brushing. A film may form if the couplant is allowed to dry before removal. Remove film by pressure washing, wire brushing or immersing the part in water until the couplant rehydrates and can be washed or brushed off.

STORAGE

Store couplant in the original container. Do not freeze. Store out of direct sunlight. Keep container closed when not in use. Never put unused couplant back into the original storage container. If pumps or valves are used to dispense bulk couplant, wash them thoroughly between drums to avoid contaminating new product. Refer to Safety Data Sheet for additional storage instructions.

PACKAGING**Echogel 20**

1 gal / 3.78 L cubitainer	48-901
5 gal / 18.9 L cubitainer	48-905
55 gal / 208 L drum	48-955

HEALTH AND SAFETY

Review all relevant health and safety information before using this product. For complete health and safety information, refer to the product Safety Data Sheet, which is available at www.magnaflux.com.

Sonotrace

Ultrasonic Couplant

Sonotrace 30[®] is a general-purpose ultrasonic couplant in medium-thick gel viscosity for flaw detection and thickness gauging applications. This glycerin-free couplant is a great choice for applications requiring minimum halogens, sulfur and low melting point metals, and offers good performance at a lower price point.



BENEFITS

- Contains humectants to retard drying for longer inspection time
- Very good corrosion inhibition
- Nuclear grade
- Good surface wetting to quickly cover oily or dirty surfaces
- Water washable for easily removal
- Silicone free
- Glycerin free
- Slower drying
- Good price-to-performance value

SPECIFICATION COMPLIANCE

- API
- ASME
- AWS

APPLICATIONS

Defect location: subsurface

Ideal for:

- Thickness gauging
- Flaw detection
- Aerospace inspections
- Nuclear inspections
- Composites
- Weld inspection
- Aircrafts
- Airframes

USE RECOMMENDATIONS

NDT Method	Ultrasonic Testing
Required Equipment	UT equipment, transducer
Usage Temperature[‡]	25 to 175°F / -4 to 79°C
Storage Temperature	50 to 86°F / 10 to 30°C
Compatibility	Most composites and metals

[‡] Couplant integrity and acoustic performance may decline beyond these temperature limits.

PROPERTIES

Appearance	Transparent gel
Color	Light green
Comparative Viscosity*	4.5
Silicone	No
Glycerin	No
Propylene Glycol	Yes
Halogens	< 50 ppm
Sulfur	< 50 ppm
Water Soluble	Yes

* Subjective measure, 0–10 scale where 0 = water, 5 = medium gel, 10 = very thick paste

INSTRUCTIONS FOR USE

Apply a small amount of couplant to the transducer or inspection area before measurement.

REMOVAL

Remove couplant with water rinse (warm/hot water recommended), isopropyl alcohol or 100% ethyl alcohol.

STORAGE

Store couplant in the original container. Do not freeze. Store out of direct sunlight. Keep container closed when not in use. Never put unused couplant back into the original storage container. If pumps or valves are used to dispense bulk couplant, wash them thoroughly between drums to avoid contaminating new product. Refer to Safety Data Sheet for additional storage instructions.

PACKAGING

Sonotrace 30

1 gal / 3.78 L cubitainer	42-901
5 gal / 18.9 L cubitainer	42-905
55 gal / 208 L drum	42-955

HEALTH AND SAFETY

Review all relevant health and safety information before using this product. For complete health and safety information, refer to the product Safety Data Sheet, which is available at www.magnaflux.com.

Soundsafe

Ultrasonic Couplant

Soundsafe® is a high-performance, general-purpose ultrasonic couplant for flaw detection and sizing, thickness gauging, flow metering and acoustic emission testing.

This medium viscosity gel couplant is well known for its outstanding performance, excellent corrosion protection, thixotropic properties and comprehensive range of specifications and approvals.

Soundsafe is Pratt & Whitney approved and meets nuclear grade specifications for halogen and sulfur levels.



BENEFITS

- Wide range of specifications and approvals
- Great surface wetting
- Thixotropic gel
- Non-toxic, non-irritating formula
- Increased acoustic impedance reduces surface noise
- Good surface wetting for fast, even coverage
- Clings well to most vertical and overhead surfaces
- Highest corrosion inhibition
- Provides good transducer lubrication
- Slower drying for extended inspection time
- Nuclear grade
- Aerospace approvals
- Hydrogen embrittlement testing

APPLICATIONS

Defect location: subsurface

Ideal for:

- Flaw detection
- Thickness gauging
- Flow metering
- Acoustic emission testing
- Vertical or overhead surfaces
- Bridge pins, welds, anchor bolts
- Weld inspection
- Rough surfaces
- Fiberglass
- Plastic
- Titanium
- Aerospace inspections
- Nuclear inspections

SPECIFICATION COMPLIANCE

- API
- ASTM F519
- ASME
- AWS
- ASTM F945
- PWA 36604
- Pratt & Whitney PMC 4385

PROPERTIES

Appearance	Transparent gel
Color	Colorless
Comparative Viscosity*	5.25
Silicone	No
Glycerin	Yes
Propylene Glycol	Yes
Halogens	< 50 ppm
Sulfur	< 50 ppm
Water Soluble	Yes

* Subjective measure, 0–10 scale where 0 = water, 5 = medium gel, 10 = very thick paste

USE RECOMMENDATIONS

NDT Method	Ultrasonic Testing
Required Equipment	UT equipment, transducer
Usage Temperature‡	0 to 200°F / -18 to 93°C
Storage Temperature	50 to 86°F / 10 to 30°C
Compatibility	Most composites and metals

‡ Couplant integrity and acoustic performance may decline beyond these temperature limits.

INSTRUCTIONS FOR USE

Apply a small amount of couplant to the transducer or inspection area before measurement.

REMOVAL

Remove couplant immediately after inspection before the couplant dries with water rinse or a combination of water rinse and brushing.

A difficult-to-remove film may form if the couplant is allowed to dry before removal. Remove film by pressure washing, wire brushing or immersing the part in water until the couplant rehydrates and can be washed or brushed off.

STORAGE

Store couplant in the original container. Do not freeze. Store out of direct sunlight. Keep container closed when not in use. Never put unused couplant back into the original storage container. If pumps or valves are used to dispense bulk couplant, wash them thoroughly between drums to avoid contaminating new product. Refer to Safety Data Sheet for additional storage instructions.

PACKAGING

1 gal / 3.78 L cubitainer	20-901
5 gal / 18.9 L cubitainer	20-905
55 gal / 208 L drum	20-955

HEALTH AND SAFETY

Review all relevant health and safety information before using this product. For complete health and safety information, refer to the product Safety Data Sheet, which is available at www.magnaflux.com.

Sono 1100

High-Temperature Ultrasonic Couplant

Sono 1100 provides coupling for high-temperature thickness gauging and will maintain acoustic coupling at high temperatures beyond 15 seconds to give ample time to obtain thickness readings. In most cases, the signal strength increases with time to the point of the couplant's thermal decomposition.

BENEFITS

- Extended open time window for longer inspections or to optimize thickness readings at high temperatures
- Medium viscosity paste
- Non-toxic, non-irritating formula
- Excellent corrosion inhibition

SPECIFICATION COMPLIANCE

- API
- ASME
- AWS

APPLICATIONS

Defect location: subsurface

Ideal for:

- Thickness gauging
- Corrosion testing
- High temperature ultrasonic testing

USE RECOMMENDATIONS

NDT Method	Ultrasonic Testing
Required Equipment	UT equipment, transducer
Usage Temperature[‡]	700 to 775°F / 371 to 413°C
Storage Temperature	50 to 86°F / 10 to 30°C
Compatibility	Most metals



[‡] Recommended temperature based

on Flash Point and Auto-ignition Temperature. In areas where flame or other ignition source may be present, or in applications where vapors may be confined in an enclosed or semi-enclosed area, these products should not be used above the flash point temperature.

PROPERTIES

Appearance	Opaque paste
Color	Beige
Viscosity	Medium paste
Silicone	Yes
Glycerin	No
Propylene Glycol	No
Halogens	N/A
Sulfur	N/A
Water Soluble	No
Flash Point*	455°F / 235°C
Auto-ignition Temperature[†]	862°F / 461°C

* Flash point temperature determined in accordance with ASTM Method D92 using the Cleveland Open Cup method. In areas where vapors may be confined in an enclosed or semi- enclosed area, the actual flash point of this product may be lower than recorded.

[†] Auto-ignition temperature determined in accordance with ASTM Method E659.

INSTRUCTIONS FOR USE

In most applications, the transducer is best coupled with the thinnest layer of couplant possible. Apply a small bead of couplant directly to the center of the transducer face and push the transducer down onto the test surface with a uniform force so the couplant spreads out evenly towards the edge of the transducer.

For best results, allow a few seconds of “melt-time” before taking temperature reading. Signal attenuation may occur if this couplant is used at a temperature below the recommended operating range. In high-temperature applications it is recommended that extra care is taken to use just enough couplant to perform the test procedure as excess couplant may increase vapors which can pose a flash hazard.

Extreme-Temperature Guidelines

Before use, make sure the surface temperature of the test piece does not exceed the maximum specified temperature for the application and environmental conditions.

At high temperatures, couplants evaporate relatively quickly; more couplant may be required near the upper end of the operating temperature range to compensate for evaporation. Care should be taken to avoid using excess couplant as this may lead to increased vapors which can pose a flash hazard.

The flash point of a material is the lowest temperature at which it can vaporize to form an ignitable mixture in air. At the flash point temperature, the material vapor will flash only if an ignition source is present and the vapor may cease to burn when the ignition source is removed. In areas where vapors may be confined in an enclosed or semi-enclosed area, the flash point of a material may be lower than the recorded value.

The auto-ignition temperature of a material is the lowest temperature at which it will spontaneously ignite in a normal atmosphere without an external source of ignition, such as a flame or spark. Environmental or atmospheric factors will affect auto-ignition temperature; therefore it is important to observe a suitable safety margin in conjunction with auto-ignition temperature.

Smoke develops as the couplant begins to decompose due to heat exposure. Smoke is not an indication the couplant is not working, but it does indicate the effective coupling time is limited. Smoke produces vapors which may lower the couplant flash point, particularly in enclosed or semi-enclosed areas.

A couplant's upper temperature range for short duration thickness gauging is higher than when used for flaw detection.

REMOVAL

Remove excess couplant from transducers and other surfaces by wiping with disposable rags or paper towels, being careful to protect skin from hot surfaces. Do not use solvent-based cleaners on hot surfaces!

STORAGE

Store couplant in the original container. Do not freeze. Store out of direct sunlight. Keep container closed when not in use. Never put unused couplant back into the original storage container. Refer to Safety Data Sheet for additional storage instructions.

PACKAGING

4 fl oz / 118 mL tubes (case of 6)	30-6XT04
1 gal / 3.78 L cubitainer	30-901

HEALTH AND SAFETY

Extra care should be taken when operating with couplants in high-temperature applications; refer to Extreme-Temperature Guidelines for pertinent information regarding couplant behavior and properties at high-temperatures.

Review all relevant health and safety information before using this product. For complete health and safety information, refer to the product Safety Data Sheet, which is available at www.magnaflux.com.

Pyrogel

High-Temperature Ultrasonic Couplant

Pyrogel® is a broad temperature range couplant for thickness gauging, flow metering, acoustic emissions testing and flaw detection/sizing. These products contain no polymers and resists drying, making them an excellent choice for long term flow metering applications.



BENEFITS

- Broadest temperature range
- Non-drying for long-term coupling or extended inspection time
- Good choice for long-term flow metering
- Excellent long-term corrosion inhibition
- Pyrogel 100 clings well to vertical and overhead surfaces

APPLICATIONS

Defect location: subsurface

Ideal for:

- Flaw detection
- Thickness gauging
- Acoustic emission testing
- Corrosion testing
- Long-term flow metering
- High temperature ultrasonic testing
- Power generation boilers
- Transmission pipes
- Pressure vessels
- Pipes, tubular goods, casing and connections
- Low temperature locations
- Long-term coupling

SPECIFICATION COMPLIANCE

- API
- ASME
- AWS

PROPERTIES

Appearance	Translucent gel
Color	Colorless
Viscosity	Thick gel
Silicone	Yes
Glycerin	No
Propylene Glycol	No
Halogens	<50 ppm
Sulfur	<50 ppm
Water Soluble	No
Flash Point*	559°F / 293°C
Auto-ignition Temperature†	894°F / 479°C

* Flash point temperature determined in accordance with ASTM Method D92 using the Cleveland Open Cup method. In areas where vapors may be confined in an enclosed or semi- enclosed area, the actual flash point of this product may be lower than recorded.

† Auto-ignition temperature determined in accordance with ASTM Method E659.

USE RECOMMENDATIONS

NDT Method	Ultrasonic Testing
Required Equipment	UT equipment, transducer
Usage Temperature[‡]	-50 to 805°F / -45 to 429°C
Storage Temperature	50 to 86°F / 10 to 30°C
Compatibility	Most composites and metals

‡ Recommended temperature based on Flash Point and Auto-ignition Temperature. In areas where flame or other ignition source may be present, or in applications where vapors may be confined in an enclosed or semi-enclosed area, these products should not be used above the flash point temperature.

INSTRUCTIONS FOR USE

In most applications, the transducer is best coupled with the thinnest layer of couplant possible. Apply a small bead of couplant directly to the center of the transducer face and push the transducer down onto the test surface with a uniform force so the couplant spreads out evenly towards the edge of the transducer.

In high-temperature applications it is recommended that extra care is taken to use just enough couplant to perform the test procedure as excess couplant may increase vapors which can pose a flash hazard.

Extreme-Temperature Guidelines

Before use, make sure the surface temperature of the test piece does not exceed the maximum specified temperature for the application and environmental conditions.

At high temperatures, couplants evaporate relatively quickly; more couplant may be required near the upper end of the operating temperature range to compensate for evaporation. Care should be taken to avoid using excess couplant as this may lead to increased vapors which can pose a flash hazard.

The flash point of a material is the lowest temperature at which it can vaporize to form an ignitable mixture in air. At the flash point temperature, the material vapor will flash only if an ignition source is present and the vapor may cease to burn when the ignition source is removed. In areas where vapors may be confined in an enclosed or semi-enclosed area, the flash point of a material may be lower than the recorded value.

The auto-ignition temperature of a material is the lowest temperature at which it will spontaneously ignite in a normal atmosphere without an external source of ignition, such as a flame or spark. Environmental or atmospheric factors will affect auto-ignition temperature; therefore it is important to observe a suitable safety margin in conjunction with auto-ignition temperature.

Smoke develops as the couplant begins to decompose due to heat exposure. Smoke is not an indication the couplant is not working, but it does indicate the effective coupling time is limited. Smoke produces vapors which may lower the couplant flash point, particularly in enclosed or semi-enclosed areas.

A couplant's upper temperature range for short duration thickness gauging is higher than when used for flaw detection.

REMOVAL

Remove excess couplant from transducers and other surfaces by wiping with disposable rags or paper towels, being careful to protect skin from hot surfaces. Do not use solvent-based cleaners on hot surfaces.

STORAGE

Store couplant in the original container. Do not freeze. Store out of direct sunlight. Keep container closed when not in use. Never put unused couplant back into the original storage container. Refer to Safety Data Sheet for additional storage instructions.

PACKAGING

12 fl oz / 354 ml bottle (case of 12) 24-212

1 gal / 3.78 L cubitainer 24-901

HEALTH AND SAFETY

Extra care should be taken when operating with couplants in high-temperature applications; refer to Extreme-Temperature Guidelines for pertinent information regarding couplant behavior and properties at high-temperatures.

Review all relevant health and safety information before using this product. For complete health and safety information, refer to the product Safety Data Sheet, which is available at www.magnaflux.com.

UT-X Powder

Ultrasonic Couplant

UT-X® Powder is a cost-effective couplant powder for flaw detection and thickness gaging applications where ferrous corrosion inhibition is required.

UT-X Powder retains viscosity on salt caked boiler tubes, corroded pipe, structural steel, steel billets, welds and ship plate. Mixed with water at the inspection site, its compact and lightweight packets are easy to transport to a job site or to store as an emergency couplant for unanticipated shortages.



BENEFITS

- Salt resistant
- Environmentally benign formula
- Fast, lump-free mixing
- Concentrated to reduce shipping cost and storage space
- No dyes, fragrance or glycerin
- Low skin irritation potential
- Short-term corrosion protection
- Economical option

APPLICATIONS

Defect location: subsurface

Ideal for:

- Flaw detection
- Thickness gauging
- Power generating boilers
- Corroded parts
- When corrosion, salt, or salt cake is present
- Large volume flaw inspections
- Structural steel
- Steel billets
- Welds
- Ship plates

SPECIFICATION COMPLIANCE

- API
- ASME
- AWS

PROPERTIES

Appearance*	Granular Powder
Color*	White
Silicone	No
Glycerin	No
Propylene Glycol	No
Halogens	N/A
Sulfur	N/A
Water Soluble	Yes

* Of powder mix

USE RECOMMENDATIONS

NDT Method	Ultrasonic Testing
Required Equipment	UT equipment, transducer
Usage Temperature[‡]	32 to 120°F / -0 to 49°C
Storage Temperature	50 to 86°F / 10 to 30°C
Compatibility	Most composites and metals

[‡] Couplant integrity and acoustic performance may decline beyond these temperature limits.

Can be winterized to -20°F / -29°C by replacing 20% of the water used for preparation with propylene glycol.

PREPARATION INSTRUCTIONS

When mixing, be very careful to avoid adding air bubbles to the water/couplant. Use the chart below and measure water into a clean mixing container. Let water sit to remove excess air (four hours is optimum). Slowly mix packet A into water until dissolved. Mix by stirring by hand or use a drill mixer. Add packet B and continue mixing until couplant thickens, this may take several minutes.

Viscosity[§]	Water
Low (2-3)	1.75 gal / 6.6 L
Medium (5)	1.25 gal / 4.7 L
High (6-7)	1 gal / 3.8 L
Very High (8)	0.75 gal / 2.8 L

[§] Subjective measure, 0–10 scale where 0 = water, 5 = medium gel, 10 = very thick paste

INSTRUCTIONS FOR USE

Apply a small amount of couplant to the transducer or inspection area before measurement.

REMOVAL

Remove couplant immediately after inspection before the couplant dries with water rinse or a combination of water rinse and brushing. A difficult-to-remove film may form if the couplant is allowed to dry before removal. Remove film by pressure washing, wire brushing or immersing the part in water until the couplant rehydrates and can be washed or brushed off.

STORAGE

Store prepared couplant in an airtight container. Store out of direct sunlight. Keep container closed when not in use. Never put unused couplant back into the storage container. Refer to Safety Data Sheet for additional storage instructions.

PACKAGING

1 gal / 3.78 L packet (case of 10) 62-110
5 gal / 18.9 L packet (case of 10) 62-510

HEALTH AND SAFETY

Review all relevant health and safety information before using this product. For complete health and safety information, refer to the product Safety Data Sheet, which is available at www.magnaflux.com.

Ultrasonic Couplant Comparison Guide

Product	General Purpose Couplants					Extended & Extreme Temperature Series		
	Ultragel II	Sonotrance Gr 30	Echogel Gr 20	Soundsafe	UT-X Powder	Sono 600	Sono 1100	Pyrogel Gr 100
Temperature Range ^a Fahrenheit °F	-10–210	25–175	27–140	0–200	32–120	0–700	700–775	-5–805
Temperature Range ^a Celsius °C	-23–99	-4–79	-3–60	-18–93	0–49	-18–371	371–413	-45–429
Corrosion Inhibition ^b	90	80	65	75	10	100	N/A	100
Relative Viscosity ^c	4	4	6	4	1 to 7	6	N/A	10
Actual Viscosity (Brookfield)	~80,000 cps (Helipath Spindle E @ 1.5 rpm)	~65,000 cps (Helipath Spindle E @ 1.5 rpm)	~75,000 cps (LV #4 @ 6 rpm)	~80,000 cps (Helipath Spindle E @ 1.5 rpm)	Variable by altering water amount	~500,000 cps (LV #5 @ 1.5 rpm)	N/A	>4,000,000 cps (LV #5 @ 0.3 rpm)
Long Velocity (x10 ⁵ cm/sec)	1.65	1.52	1.55	1.64	1.51	1.50	N/A	1.20
Impedance (Mrayls)	1.80	1.55	1.60	1.72	1.53	1.37	N/A	1.35
Acoustic Performance ^d	85	55	50	80	40	70	N/A	55
Typical Max Halogens ^e	<50 ppm	<50 ppm	<50 ppm	<50 ppm	<50 ppm	N/A	N/A	N/A
Typical Max Sulfur ^e	<50 ppm	<50 ppm	<50 ppm	<50 ppm	<50 ppm	N/A	N/A	N/A
Water Solubility ^f	90	90	80	90	80	20	0	10
ASTM F519	✓		✓					
ASTM F945-PWA 36604	✓							
PWA 36700	✓			✓				
BAC 5968	✓	✓						
BAC 5980	✓							
BAC 5439-PSD 622	✓		✓					

^a For thickness gaging (lower maximum for flaw inspection)

^b Duration of ferrous corrosion inhibition (mild steel & cast iron): 100 = long term protection, 80 = 60 days-steel, 14 days - iron, 60 = 30 days - steel, 7 days - iron, 40 = 7 days - steel, 2 to 8 hours - iron, 20 = 8 hours-steel, 0 to 2 hours - iron, 0 = no inhibition, like plain water.

^c 10 = thick paste, 5 = slow flowing gel, 0 = water

^d For thickness gaging (lower maximum for flaw inspection)

^e Typical values only, request current C of A for actual values

^f 100 = easiest to remove with appropriate solvent, 0 = difficult to remove even with solvent and scrubbing

N/A = Not Available, Information in green indicates best estimates.