

# TECHNICAL DATA SHEET

**0985 077 230, 0985 077 231, 0985 077 232**

## **HR Instant Repair Tape**

Highly resistant, self-fusing silicone tape for instant repairs and sealing applications.

### **Fields of application:**

Repairing and sealing of piping and hoses up to a pressure of 8 bar (with a 1" dia.)

Sanitary installations, housing technology, maintenance workshops: sealing/repair of e.g. heating pipes, cooling pipes, armoring, water pipes.

Car, cargo, agriculture: sealing/repair of e.g. radiator hoses, oil pipes, garden hoses, pneumatic parts.

Construction: sealing/repair of e.g. pipes in construction machinery. Coating tool handles.

Can also be used in many other fields such as yachting and camping,....

### **Properties:**

- UV-resistant
- Seals up to a pressure of 8 bar.
- Water- and airtight within seconds.
- Very versatile.
- Quick and easy application.
- Can also be used on wet or oily surfaces and under water.
- Can be removed without any residue.
- Permanently elastic.

### **Application:**

1. Wrap HR Instant Repair Tape around the object to be repaired while stretching the tape and let the individual layers overlap. Instant Repair Tape only bonds to itself. Stretch the tape to at least its double length while wrapping to make sure that it bonds tightly. Stretch the tape to its maximum when sealing leaks that are under pressure (water hoses, compressed air lines, etc.). The tighter the tape is wrapped around an object the faster it bonds and the tighter is the connection.

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2. Continue to wrap HR Instant Repair Tape around the object and make sure that the individual layers overlap to 50 % (one wrap layer covers the preceding layer to 50 %). The first and last wrap layer

should fully overlap to make sure that the layers bond tightly together. Under certain circumstances further layers might be necessary that must be applied as described above. It does not matter which side of the HR Instant Repair Tape is applied as both sides can be used.

3. HR Instant Repair Tape should only be removed and repositioned in exceptional cases and only in the first seconds after the object has been wrapped. We strongly recommend that you not remove and reposition the tape after more than one minute! HR Instant Repair Tape cannot be reused but additional layers can be applied at any time.

## Technical data:

Property	Test method	Mil Spec Min Performance	Test result*
Max. temperature range		-65° C to +260° C	-65° C to +260° C
Usage temperature range (permanent)		-60° C to +200° C	-60° C to +200° C
Brittleness point (cold)		-65° C	-65° C
Hardness according to "Shore A"	ASTM D2148	50	50
Resistance	ASTM D119	700 PSI	950 PSI, +/- 25 PSI
Flexibility	ASTM D119	300 %	800 %, +/- 50 %
Tear resistance	ASTM D624, Die B	85 ppi	85 ppi
Adhesive strength	MIL-I-46852	2 lbs	12 lbs

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Brittleness point	ASTM D746	-65° C	-65° C
Water absorption	MIL-I-46852	3 % by weight	3 % by weight

## Remarks:

If necessary, apply several layers of tape for sealing leaks in high pressure hoses or other objects that are under pressure. Most leaks can be sealed by applying 3 to 5 layers of HR Instant Repair Tape. The tape should also cover a surface of 4 to 6 cm on both sides of the leak. In case the leak is not entirely sealed, the effectiveness of HR Instant Repair Tape can be increased by applying additional wrap layers.

HR Instant Repair Tape can be stretched to a "maximum". To make sure that no "bubble" can form under the leak, it is important to stretch the tape to its maximum when applying it.

HR Instant Repair Tape is intended for temporary repairs only.

## Chemical stabilities:

HR Instant Repair Tape is resistant to many chemicals, fluids and oils.

## Diluted acids and caustic solutions:

- no matter if hot or cold - they have a negligible effect on silicones.

## Concentrated acids and caustic solutions:

Silicones are attacked by concentrated acids and caustic solutions, especially by oxidizing acids such as sulfuric acid.

## Polar liquids:

Short-chained alcohols and acetone cause very little swelling and can be used in appropriate applications.

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## Non-polar liquids:

Linear or cyclic hydrocarbons, aliphatic or aromatic mineral oils, gasoline etc. cause severe swelling. They can be used to a very limited extent only.

The following table lists the effects various chemicals have on HR Instant Repair Tape if it is fully immersed at room temperature or +49°C for 336 hours:

Immersion liquid	Exposure time	Room temperature	49°C
Acetic acid 5 %	336 hours	No effects	No effects
Acetic acid 10 %	336 hours	No effects	No effects
Acetic acid 20 %	336 hours	No effects	No effects
Concentrated acetic acid	336 hours	No effects	Slight cracking
Acetone	336 hours	Slight discoloration	Slight discoloration
Ammonium hydroxide 10 %	336 hours	No effects	No effects
Concentrated ammonium hydroxide	336 hours	Very slight discoloration	Very slight discoloration
Aviation fuel	336 hours	Slight discoloration, severe swelling	Not tested
Gasoline	336 hours	Slight discoloration, severe swelling	Not tested
Boric acid	336 hours	No effects	No effects
20 % calcium chloride in H <sub>2</sub> O	336 hours	No effects	No effects
Carbon tetrachloride	336 hours	No effects	No effects
Diesel fuel	336 hours	Slight discoloration, severe swelling	Not tested
Distilled water	336 hours	No effects	No effects
Ethylene glycol	336 hours	No effects	No effects
Fatty acids (linseed oil)	336 hours	Slight discoloration, severe swelling	Slight discoloration, severe swelling
Formic acid 5 %	336 hours	No effects	No effects
Formic acid 10 %	336 hours	No effects	No effects
Glycerin	336 hours	Discoloration	Not tested
Hydraulic fluids	336 hours	Slight discoloration, slight swelling	Not tested
Hydrochloric acid 5 %	336 hours	No effects	No effects
Hydrochloric acid 10 %	336 hours	No effects	No effects
Hydrochloric acid 20 %	336 hours	Discoloration and slight surface cracking	Discoloration and slight surface cracking
Concentrated hydrochloric acid	336 hours	Discoloration and moderate surface cracking	Discoloration and moderate surface cracking
Hydrogen peroxide 10 %	336 hours	No effects	No effects
Kerosene	336 hours	Slight discoloration, moderate swelling	Not tested

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Methyl alcohol	336 hours	No effects	No effects
Methyl ethyl ketone	336 hours	Slight discoloration, severe swelling	Not tested
Methyl isobutyl ketone	336 hours	Slight discoloration, severe swelling	Not tested
Mineral spirits	336 hours	Slight discoloration, moderate swelling	Not tested
<b>Immersion liquid</b>	<b>Exposure time</b>	<b>Room temperature</b>	<b>49°C</b>
Motor oil	336 hours	Slight discoloration	Slight discoloration, softening up
Nitric acid 5 %	336 hours	No effects	No effects
Nitric acid 10 %	336 hours	Slight discoloration, slightly increased pliability	Slight discoloration, slightly increased pliability
Phosphoric acid 50 %	336 hours	No effects	No effects
Potassium hydroxide solution 20 %	336 hours	No effects	Slight inflation of the surface, slightly altered appearance of surface
Soda solution 20 %	336 hours	No effects	Slight inflation of the surface, slightly altered appearance of surface
20 % sodium chloride in H <sub>2</sub> O	336 hours	No effects	No effects
Sodium hydroxide 50 %	336 hours	Altered surface appearance, extreme pliability	Altered surface appearance, extreme pliability
Sodium hypochlorite 1 %	336 hours	No effects	No effects
Sulphuric acid 5 %	336 hours	No effects	No effects
Sulphuric acid 10 %	336 hours	Slight discoloration and cracking	Slight discoloration and cracking
Sulphuric acid 25 %	336 hours	Discoloration and moderate surface cracking	Discoloration and moderate surface cracking
Sulphuric acid 50 %	336 hours	Discoloration and severe cracking	Discoloration and severe cracking
Toluene	336 hours	Slight discoloration, moderate swelling	Not tested
Trichloroethane	336 hours	Slight discoloration, moderate swelling	Not tested
Xylene	336 hours	Slightly increased pliability	Slightly sticky

This advice is based on our own research and experience. It is presented in good faith and may be considered reliable. However, due to the diverse processing, application and handling possibilities the information provided may not be considered legally binding. The same applies to the information provided by our technical and commercial customer service.

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