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# ARDEX RA 54

## **Fast Setting Semi-Rigid Polyurea Joint Sealant**

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Fill interior control joints or new construction joints

Heavy duty vehicle traffic - Designed for industrial floor applications

Rapid cure - Trafficable in 90 minutes

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# ARDEX RA 54

## Fast Setting Semi-Rigid Polyurea Joint Sealant

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### DESCRIPTION

ARDEX RA 54 is used to fill interior control joints or new construction saw joints on horizontal concrete surfaces. Designed for industrial floor applications receiving heavy duty vehicle traffic. Can be used in exterior applications, when minimal (10% to 12%) joint movement from thermal cycling will occur. With a very rapid cure time, repaired joints can be opened to traffic in 90 minutes.

### INSTRUCTIONS

Always be sure the bonding surfaces are prepared in advance before starting a new cartridge or mixing product. If possible, schedule dispensing to consume an entire cartridge at one time with no interruption of the flow.

#### For Heavy Duty Traffic areas

The joint width should be a maximum of 19mm. The joint depth should be a minimum of 3 times the width, or 60mm.

#### For Light Foot Traffic

The joint width should be a maximum of 19mm. The depth should be a minimum of 13mm.

ARDEX RA 54 is not intended for joints subject to high movement but will provide 10-12% movement of installed joint width when placing backer rod or a small amount of sand to the bottom of the joint to avoid adhesive bonding to the bottom. This will allow for movement of bonding agent from side to side during joint expansion and contraction.

### SURFACE PREPARATION

Old concrete must be clean, completely dry with no presence of moisture and then profiled or textured. New concrete must be a minimum of 28 days old. Before using ARDEX RA 54, make sure that the surfaces to be bonded are sound and clean so there is no dust, dirt, grease, wax, oil, or any other contaminant present. Smooth surfaces should be mechanically roughened with a wire brush or sand paper before application.

### CARTRIDGE SET-UP

While preparing cartridge for dispensing, keep cartridge in an upright position to prevent material from leaking out of cartridge. Do not tilt cartridge until material is to be applied.

1. Shake cartridge vigorously for 60 seconds, then stand cartridge upright for 5 minutes.
2. Insert cartridge into a heavy-duty caulking gun. Remove plastic cap from the top of the cartridge.

IMPORTANT! Before attaching nozzle, dispense a small amount of material into a disposable container until both materials flow evenly from cartridge. Place nozzle onto cartridge and secure by threading in a clockwise direction.

3. Point nozzle straight up and slowly apply pressure to dispenser, moving the product up through the nozzle until it reaches the tip, then at a 45 degree angle, dispense 1 stroke of material into a disposable container. After purging air always point cartridge downward when not dispensing to prevent mixed material in the nozzle from flowing back into the cartridge.

Note: Joints may be overfilled and shaved in 45 minutes (at 23°). Cartridge is fully dispensed when plunger reaches halfway.

### REPAIRING CRACKS OR INSTALLING CONTROL JOINTS IN CONCRETE

1. Substrate and environment must be completely dry without any presence of dampness prior to usage.
2. Freshly poured concrete must be fully cured for a minimum of 28 days to release the moisture.
3. Using a saw or grinder with a dry diamond or concrete abrasive blade, cut along the crack. The edges must be a 90° angle to the surface to avoid a feathered edge, which would leave the edges of concrete unprotected.
4. Blow out and remove all dust, dirt, debris, oil and any other contaminate from the control joint or crack.
5. To avoid bond to bottom of the joint, backer rod or Kiln-Dried sand should now be placed prior to application of adhesive. Bonding to the bottom can result in sealant bond failure due to joint expansion or contraction.
6. Place the mixing nozzle directly over the joint or repair area. Dispense material using full smooth trigger pulls (no short choppy strokes) and allow material to gravity feed into the crack or joint. For joints to be shaved, over-fill the crack or joint so that material is slightly higher than the face of the concrete slab you are repairing.
7. Allow the ARDEX RA 54 to cure for approximately 45 minutes at 23°C, then use a sharp floor scraper to shave excess material from top surface.
8. Follow the instructions TOPCOAT APPLICATION when applying any topcoat.

## TOPCOAT APPLICATION

After the application of ARDEX RA 54, wait 24 hours prior to applying any primer. A premium primer **MUST** be used prior to the application of any topcoat. Follow the primer manufacturer's instruction for primer cure schedule. A small test area of the primer and topcoat must be conducted and observed for 7 days prior to full application.

## CURING

Can be shaved in 45 minutes (at 23°) and can be opened to full traffic after 90 minutes.

### Estimated Shave Time (based on 12mm bead thickness)

Temp in °C	38-49	27-38	21-27	16-21	10-15
Time	20 min	30 min	45 min	1.5 hrs	2 hrs

## APPLICATION TEMPERATURE

Substrate and ambient air temperature should be between -40°C and 50°C.

## CLEAN UP

Clean tools and equipment with white spirits, mineral turps or aerosol dewatering agent or lubricant. Do not allow epoxy to harden on equipment.

## COVERAGE

A 254mL cartridge will cover approximately 3 linear metres with a joint size of 3 x 25mm.

### Coverage Chart

Joint Size in mm	Linear metre per cartridge
3 x 25	3.14
3 x 50	1.58
5 x 25	2.1
5 x 50	1.04
6.5 x 25	1.58
6.5 x 50	0.79
13 x 25	0.79
13 x 50	0.4

## PACKAGING

ARDEX RA 54 is sold in a 254mL cartridge.

## SHELF LIFE

18 months if unopened.

## PLEASE PAY ATTENTION TO THE FOLLOWING

Do not attempt to force adhesive out of a hardened mixing nozzle. Use a new mixing nozzle to avoid rupturing the set or causing improper mixing. If a

leak should develop, discontinue use immediately and continue to work with a new cartridge and nozzle. Never transfer a used nozzle to a new cartridge. Instead use a new nozzle with each new cartridge.

In exterior applications, product will initially change colour from grey to grey-green and then return to grey after 90 days.

This product is highly sensitive to moisture during application and cure and cannot be used if any dampness is present. Once cured, ARDEX RA 54 is moisture insensitive.

Not for use in expansion joints.

## SAFETY PRECAUTION

This product is considered hazardous. Avoid contact with skin and eyes. Wear suitable gloves and eye/face protection. Avoid exposure - obtain special instructions before use. Do not empty into drains. This material and its container must be disposed of in a safe way.

Harmful in contact with skin and if swallowed. Causes burns. Risk of serious damage to eyes. SENSITISATION by skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Store as per Material Safety Data Sheet. In case of accident or if you feel unwell, IMMEDIATELY contact Doctor or Poisons Information Centre. Refer to special instructions / safety data sheet.

## FIRST AID

If swallowed, drink plenty of water in small portions, do not induce vomiting and seek medical advice. In case of eye contact, rinse with plenty of clean water for at least 15 minutes and seek medical advice. If skin contact occurs, wipe off and wash skin with running water and soap. In case of inhalation, supply fresh air. In case of any symptoms, see a doctor.

**ARDEX RA 54 Chemical Resistance Chart**

Chemical Reagents	Recommended for Continuous Service	Limited Recommendation (Occasional Spills)
Acetic Acid (10%)	✓	
Acetone		✓
Bleach		✓
Bleach (10%)	✓	
Citric Acid (5%)	✓	
Crude Oil	✓	
Motor Oil		✓
Petrol		✓
Diesel Fuel	✓	
Hydraulic Fluid (Skydrol)		✓
Hydraulic Oil	✓	
Ethylene Glycol		✓
Fatty Acids	✓	
Water (Room Temp.)	✓	
NaCl (10%)	✓	
Hydrochloric Acid (10%)	✓	
Lactic Acid (5%)	✓	
Methyl Ethyl Ketone		✓
Nitric Acid (1%)	✓	
Phosphoric Acid (10%)	✓	
Sodium Hydroxide (20%)	✓	
Sulfuric Acid (20%)	✓	
Toluene		✓
Urea (50%)	✓	
Vinegar	✓	
Xylene		✓

**TECHNICAL DATA**

<b>Colour:</b>	Grey
<b>Viscosity Mixed:</b>	500 centipoise
<b>Gel Time (+24°C):</b>	3 minutes
<b>Cure Time (+24°C):</b>	90 minutes (reopen to traffic)
<b>Tensile Strength:</b>	8.3 MPa
<b>Elongation:</b>	82%
<b>Bond Strength:</b>	2.8 MPa
<b>Shore A Hardness:</b>	75 - 80
<b>Adhesion to Concrete:</b>	1.9 MPa
<b>Volatile Organic Compounds (VOC):</b>	0 g/L

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