

# Duro Soil

Duroseal – Acrylate Resin

<b>Product Description</b>	<b>Acrylate resin for grout curtain injections and surface injections of building structures</b>
<b>Applications</b>	<p><b>Duro Soil is used for a durable waterproofing of:</b></p> <ul style="list-style-type: none"> <li>• Water carrying cracks and voids.</li> <li>• Expansion joints (repair work).</li> <li>• Construction joints with single or re-injectable injection hoses.</li> <li>• Grout curtain injections.</li> <li>• Surface sealing injections.</li> </ul>
<b>Properties/Advantages</b>	<ul style="list-style-type: none"> <li>• Adjustable reaction time between <b>2 and 15 minutes</b>.</li> <li>• Addition safety due to swelling effect of up to approx. <b>65% by weight</b>.</li> <li>• Flexible and solvent free acrylate resin.</li> <li>• Proof of <b>safe environmental behavior</b> (ecological toxicity)</li> <li>• Compatible with water.</li> <li>• Very good penetration</li> <li>• Injection resin belongs to the group of hydrogels</li> </ul>

Technical and Chemical Data		Mixture of resin
	Viscosity at 20° C (68° F) (mixture of components):	
Density at 20° C (68° F):		Approx. 1.1 g/ml
pH-value at 20° C (68° F):		Approx. 10
Color:		White
Solids content:		38%
Chloride content:		<0.01%
Processing:		Injection with two-component pump via injection hoses or drill packer.
Shelf life:		12 months

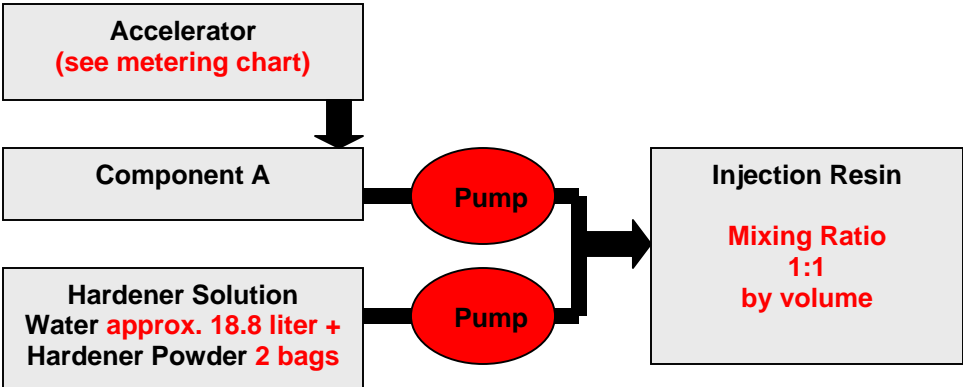
Packaging (approximate yield = 10 US Gallons)	Packing Unit	24 kg	Pallet size
	Component A	20.0 kg	24 x 24.28 kg = 582.72 kg
	Accelerator	2 x 1.5 kg	
	Hardener-Powder	2 x 640 g	

<b>Storage</b>	<b>Duro Soil</b> shall be stored in closed containers at temperatures between 10° C and 30° C (50° F to 86° F) under dry conditions to avoid loss of reactivity. Protect from direct sunlight. All components have a shelf life of 12 months if storage recommendations are observed.
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**Mixing Instructions**  
for 40 kg mixed resin



**Figure 1: Mixing Instructions for processing in two-component pumps**

Duro Soil consists of 3 components which can be mixed in dependence of the required reaction times in different ways:

1. 20 kg of the resin (component A) are activated with 40 g to 3000 g of the accelerator. The reaction time – see metering chart – is adjusted by the quantity of accelerator used.
2. The hardener solution (component B) is produced by dissolving 2 bags (1.28 kg) of hardener powder in 18.8 liters (18.8 kg) of water.
3. The pre-mixed components as per point 1 and 2 above are processed with a two-component pump, having a static mixing unit in a mixing ratio of 1:1.

Reaction Times	<u>Metering Chart:</u> Accelerator In ml	Ambient Temperature			Quantity of accelerator in ml per 40 kg of mixed resin
		5° C (41° F)	20° C (68° F)	40° C (104° F)	
Reaction Time	2 min.		1090	100	
	3 min.	2720	360	75	
	4 min.	1450	245	60	
	5 min.	730	100	40	
	10 min.	370	70		
	15 min.	180	50		

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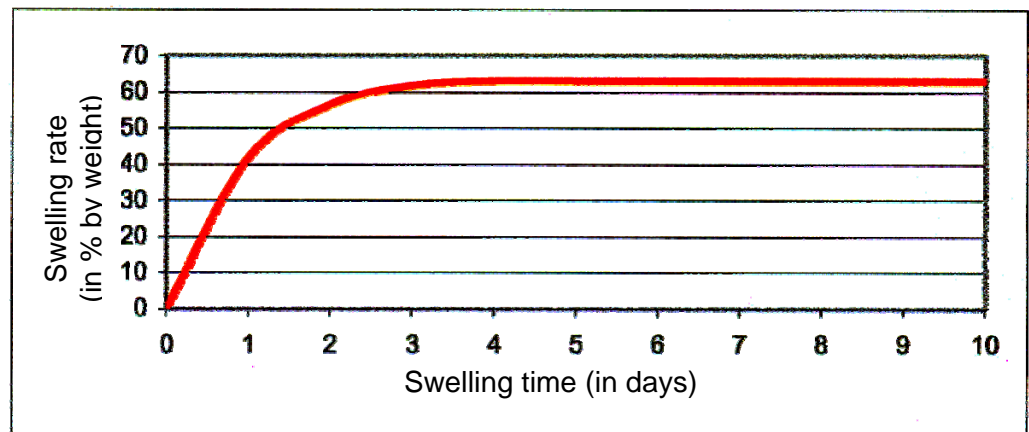
## Storage life of activated hardener solution

The activated component A and the hardener solution have a shelf life of approx. **24 hours**. In addition it has to be taken into account that the activated component A has to be protected from direct sunlight and from heat.

## Injection/ Processing

- **Duro Soil** will react in dependence of the used material quantity, the accelerator quantity and the ambient temperature. The data given in the chart overleaf are laboratory results, which may differ from actual results on site. We therefore recommend carrying out a material test to determine the exact adjustments before injection work is commenced.
- **Duro Soil** is injected with a two-component injection pump equipped with a static mixing head in a 1:1 ratio by volume. It is absolutely necessary that the wetted parts of the pump, are manufactured from stainless steel.
- **Inject 215** is compatible with water, therefore re-injectable injection hoses can be cleaned by vacuum.
- Tools and injection pumps can be cleaned with water after use. Hardened material can be removed with our cleaner **DR 90**.

## Swelling Rate



**Figure 2: Swelling behavior in demineralized water**

**Duro Soil** has a low to medium swelling rate and therefore very well suited for surface sealing of building structures or for grout curtain injections. The swelling properties offer, however, additional safety, e.g. in case of joint movements. The determination of the swelling rate depends on the contact medium, the temperature and reaction time.

## Safety Instructions

**Duro Soil** does not contain poisonous ingredients. Acrylate monomers are irritating to the eyes and skin. Sensitizing in case of skin contact is possible. During processing the usual work hygienic protective measures shall be adhered to: do not eat, drink or smoke while handling the materials.

Personal protective measures: wear safety goggles, rubber gloves and work clothes. Provide for good ventilating at work. Further local work hygienic and person-related protective measures have to be considered.

Do not allow unmixed components to enter watercourses and soil. In cured state, **Duro Soil** is physiologically harmless.

## General Information

All details, in particular the suggestions for the processing and use of our products are based on our present knowledge and experiences at the time of the printing.

Depending on the specific application, in particular regarding substrates, processing and environmental conditions the results may differ. BBZ AG and BBZ USA guarantees the compliance of the technical properties as described in the technical data sheets within the shelf life of the products.

Customers are advised to consult the latest technical data sheets, which are available on request.

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