

Carbomed

acrylic acid thickeners

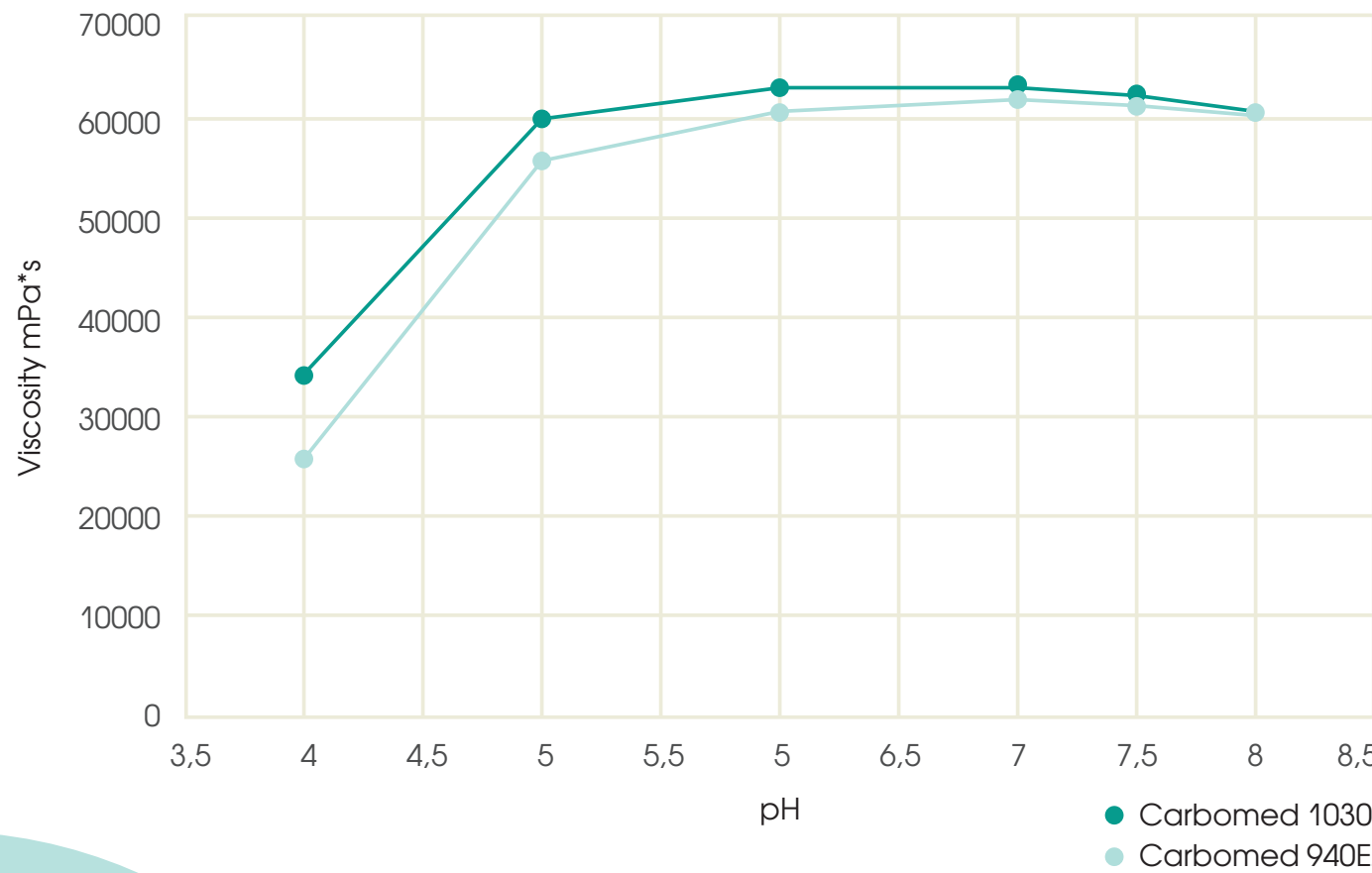


Carbomed 940 EZ and **Carbomed 1030** are acrylic acid polymers, widely used in Personal Care formulations as gelling, thickening, suspending and stabilizing agents.

TYPICAL PROPERTIES	CARBOMED 940 EZ	CARBOMED 1030
INCI name:	Carbomer 940	Acrylates/C10-30 Alkyl Acrylate Crosspolymer
CAS n. :	9007-20-9, 9003-01-4	-
Appearance:	fluffy, white powder	fluffy, white powder
pH (0,5 % water dispersion):	~ 3,0	~ 3,0
Viscosity (0,5 % water disp. pH 7,0):	40.000 – 60.000 cPs	45.000 – 65.000 cPs
Residual solvent (methylene chloride):	0,1 % max	0,1 % max.
Benzene:	free	free
Clarity:	≥ 95 %	≥ 95 %
Loss on drying:	2,0 % max.	2,0 % max.
Heavy metals:	20 ppm max.	20 ppm max.

Carbomed 940 EZ and **Carbomed 1030** are insoluble but dispersible in water, forming a whitish, very acidic dispersion (pH ~3,0). At such a low pH, they are scarcely active and pH must be raised ($\geq 5,0$) by the addition of an alkali (Triethanolamine, Sodium Hydroxide, AMP, etc.) so that Carbomed can develop their activity.

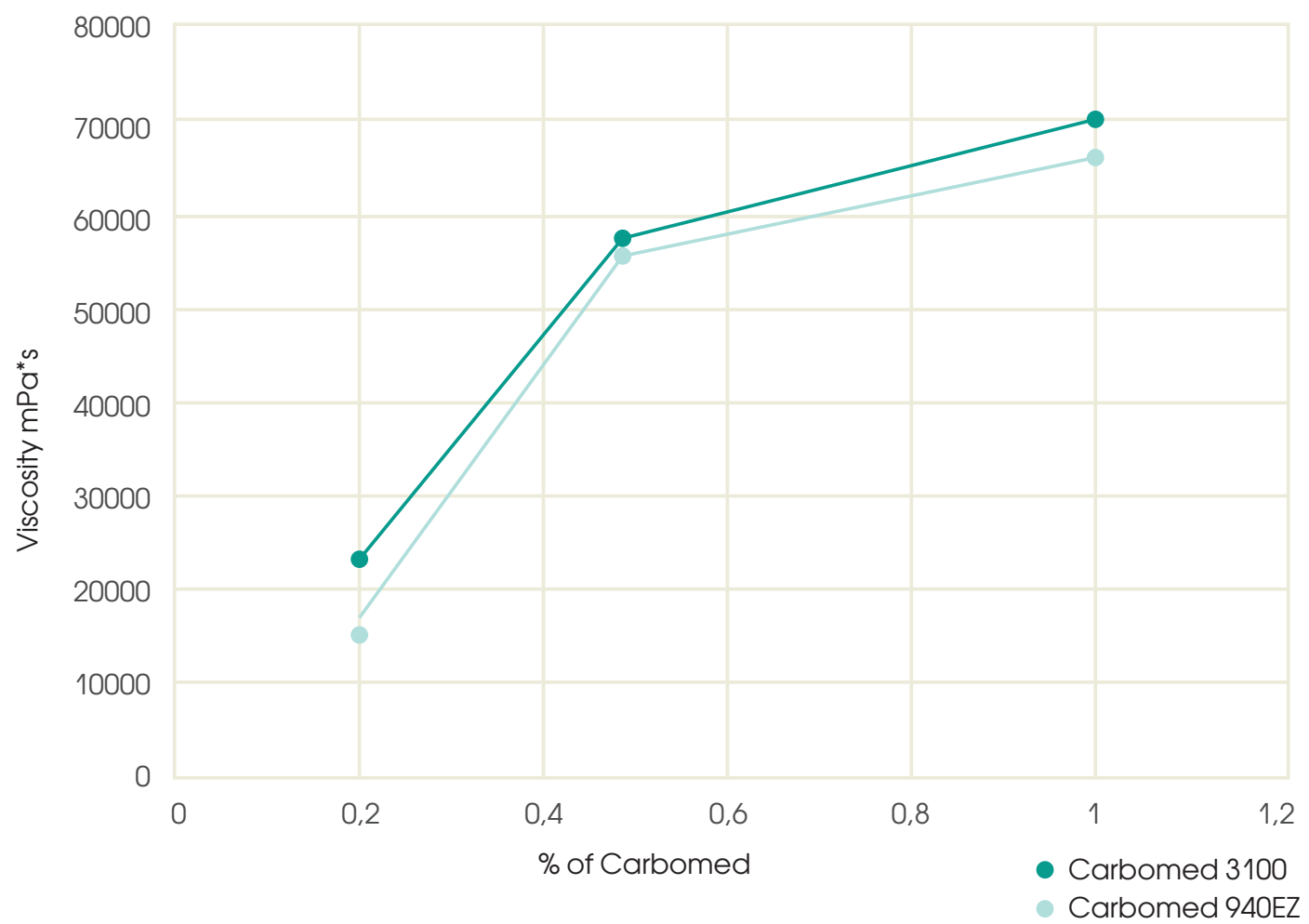
Viscosity of a 0,5% Carbomed gel at different pH





Carbomed 940 EZ and **Carbomed 1030** are used in a wide range of personal care products such as hair gels, hand sanitizers, creams, hand and body lotions, sunscreens, shampoos and shower gels, etc. at percentages ranging from 0,1 to 1,0 %, depending on the specific formulation and use.

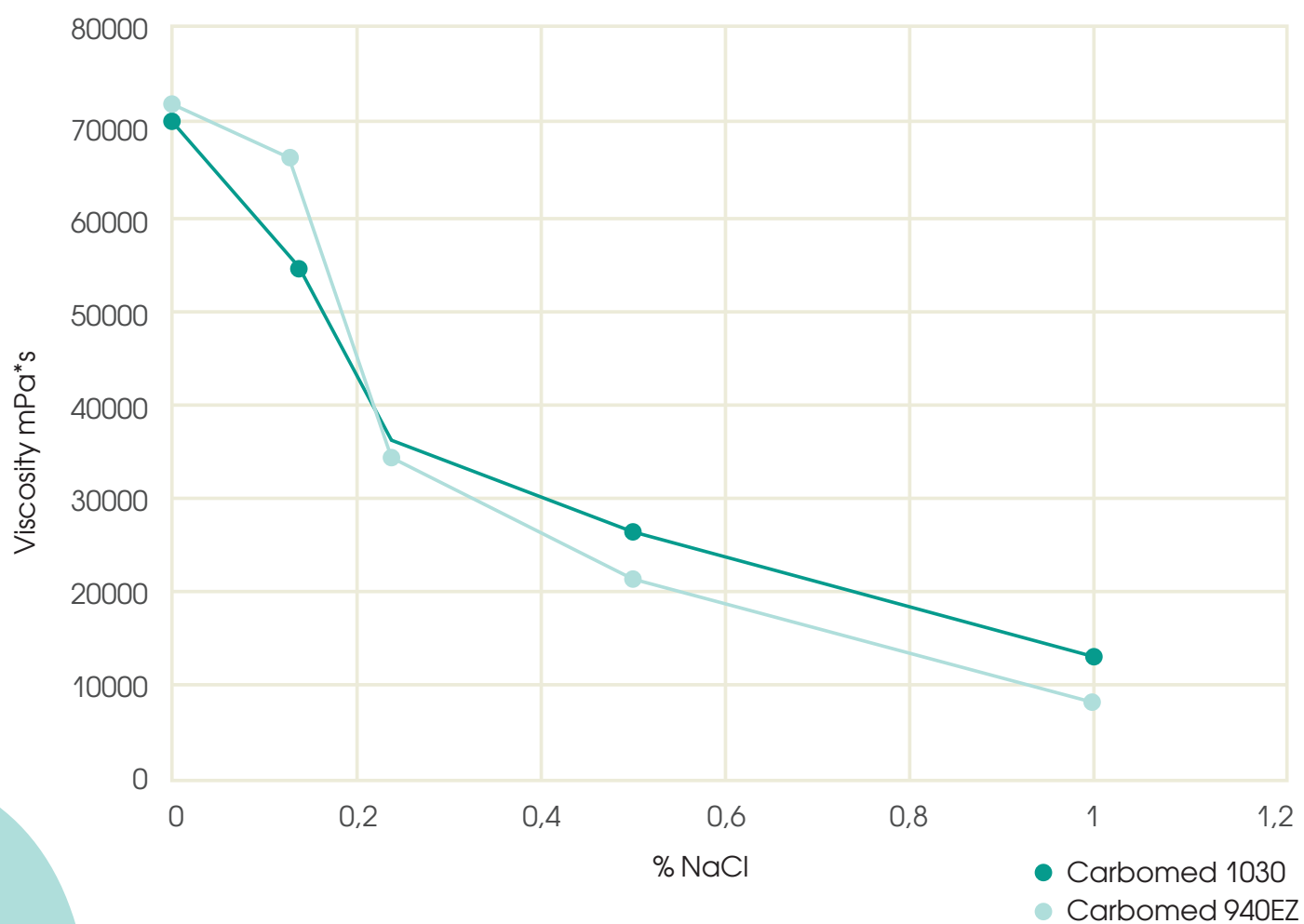
Gel viscosity at different % of Carbomed at pH 7,0





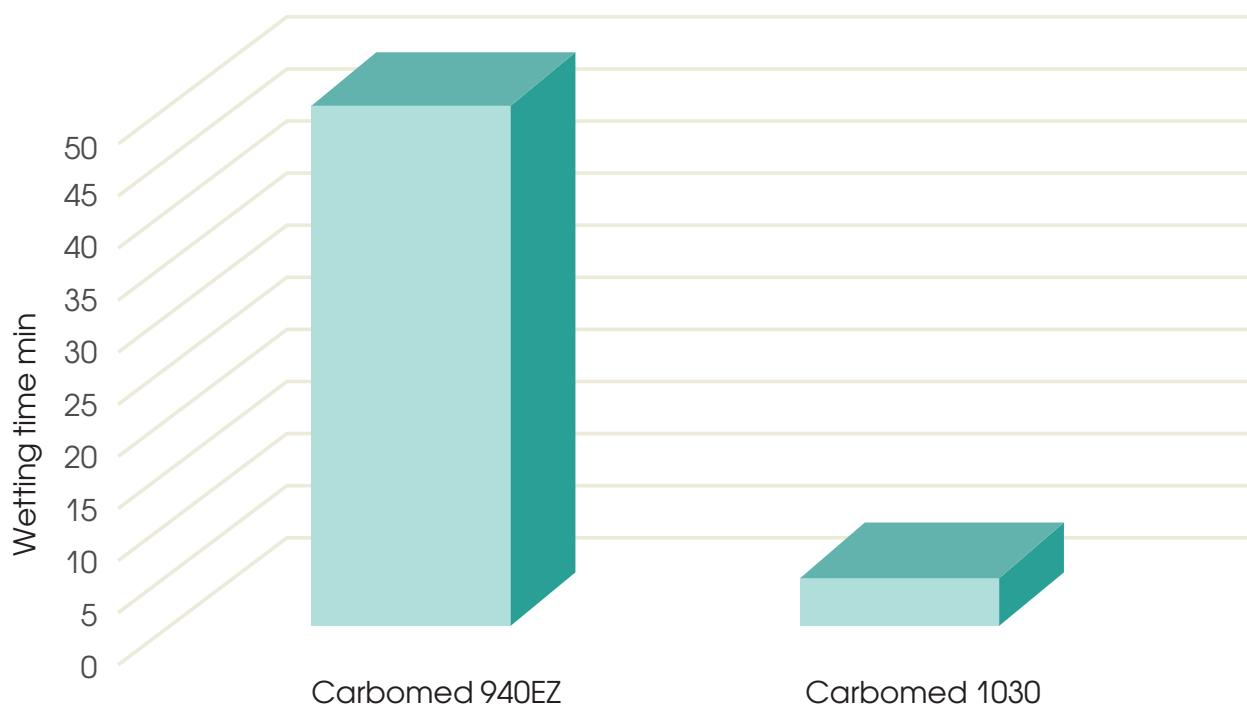
Carbomed 940 EZ and **Carbomed 1030** are rather sensitive to electrolytes which may affect gel viscosity.

Viscosity of a 1% Carbomed gel at different NaCl concentrations



When compared to other commercially available types of Carbomer 940, **Carbomed 940 EZ** shows a much shorter wetting and dispersion time and a significant reduction in clumps formation thus preventing long mixing cycles.

Carbomed wetting time



Wetting and dispersion times are further greatly enhanced with **Carbomed 1030**.

In fact, **Carbomed 1030** self-wets in some 5 minutes' even without any mixing and without the formation of lumps.

To accelerate its sinking, slow-stirring can be applied while fast-stirring is not recommended as air will be trapped into the dispersion.

A neutralized dispersion of **Carbomed 1030** thicken immediately but may appear as "goose bumped" that may need 30-60 minutes' to take a smooth appearance.

Another remarkable characteristic of **Carbomed 1030** consists in the possibility of making dispersions up to 6 wt% that still remain pumpable and facilitate production.

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