



Dispercoll® C

Environmentally friendly, waterborne and sprayable 1K contact adhesives with excellent wet bonding



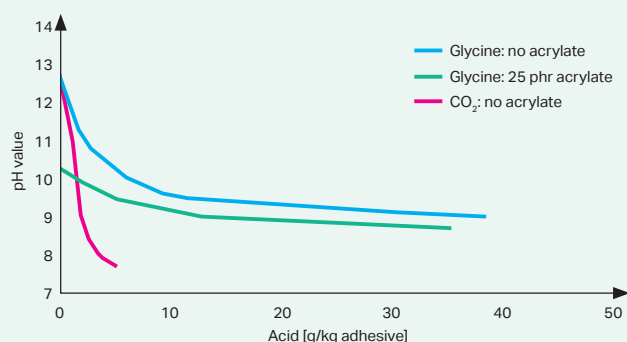
Dispercoll® C 84 & Dispercoll® S 3020

Environmentally friendly, waterborne and sprayable 1K contact adhesives with excellent wet bonding

Wet bonding under tension



Fig. 1: Comparison of glycine vs. CO₂ activation to reduce pH



Starting formulation	A	B	C
Quantity	Parts by weight (pwt)		
Dispercoll® C 84	70	70	70
Dispercoll® C VP LS 2372-1	30	30	30
Dispercoll® S 3020		25	25
Acronal® 3710	25		
Glycine	1.5	1.5	
CO ₂			~ 0.3
Performance	A	B	C
pH after activation	9.0	9.0	8.3
Pot life [d]	> 180	> 180	> 180
Viscosity at equilibr. [mPa · s]	~ 2,500	< 50	~ 4,000
Foam/foam immediate	yes	yes	yes
Foam/wood immediate	no	no	yes

Ecological, economic and occupational health and safety concerns are driving the growing demand for more sustainable waterborne adhesive formulations based on Dispercoll® C. A key property of these adhesives is their good suitability for wet-in-wet bonding on a wide variety of substrates combined with a high initial bond strength directly after application. Polychloroprene dispersions typically must be destabilized or activated in order to boost performance. For 1K formulations, this can be achieved by lowering the pH value. The challenge is to find the right balance between storage stability and reactivity – to facilitate transport and handling on the one hand, but on the other hand to boost the wet-bonding performance with challenging substrates.

The state-of-the-art formulation (system A) uses an acrylic dispersion to improve storage stability in combination with glycine to lower the pH. But wet-bonding performance is limited, even at low pH. An alternative to acrylate for improving storage stability is Dispercoll® S 3020, a surface-modified pH-reduced silica sol. This product, in combination with glycine (system B), achieves the same performance as standard at pH ≈ 9, but neither A nor B can reach immediate wet strength in foam/wood bonding. Only when employing CO₂ activation, in combination with Dispercoll® S 3020 (system C), can the adhesive formulation easily reach a lower pH value (8.0–8.5) (Fig. 1), thus boosting the wet bonding performance (even for foam/wood) and ensuring storage stability at the same time. As a 1k system, this combination opens up a whole new dimension for contact adhesives with respect to the key properties of wet tack and especially high initial bond strength.



Covestro Deutschland AG
Business Unit Coatings,
Adhesives & Specialties
51365 Leverkusen
Germany

www.coatings.covestro.com
cas-info@covestro.com

This information and our technical advice – whether verbal, in writing or by ways of trial – are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. The information is provided by Covestro without assumption of any liability. If any of the above mentioned regulations change after the date of declaration, this declaration is no longer valid. Covestro will strive to keep this information up-to-date. Our advice does not release you from the obligation to verify the information provided – especially that contained in our safety data and technical information sheets –, to check for updates of any information provided by us and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. Edition: 2019 · Order No.: COV00086525 · Printed in Germany · E