


## Technical data sheet – Multiface 40 Very Hard

### 1. Physical data

Material	2-component PU system (highly transparent or translucent).	
Field of application	<p><b>Multiface 40 Very Hard</b> is a high-performance adhesive for the structural bonding of hard materials such as metals, glass, and ceramics and hard elastomers, and has been specially developed for use as high-end anticorrosion coating. Multiface® is a reactive adhesive without volatile organic compounds (VOC). On the contact surface with rubber it additionally achieves a unique chemical crosslinking for an adhesive, which corresponds to the process of hot vulcanizing, but starting at room temperature. Multiface® can therefore be used in hot process with a vulcanizing press or an autoclave as replacement for vulcanizing solution and raw rubber. For this purpose, a thin layer, as well lower pressure and temperature are fully sufficient to perform a complete vulcanizing. Selected highest grade raw materials guarantee the usage of Multiface® as polymer mixture without danger for people and environment and the use even in the food industry.</p>	 <p>Canister and hobbock and drum 10 kg and 20 Kg or 200 kg</p>
Main characteristics	<p><b>Multiface 40 VH</b> is liquid with a mixing ratio of 75:100 volume Highly transparent or translucent; no yellowing Curing even in dry and wet conditions and at low temperatures reaching +5°C Good adhesion to all types of ferrous and non-ferrous metals; however, a first coating with the epoxy glue <b>Multi-EP</b> as metal primer is recommended. As anticorrosion coating usable wet on wet layer and wet on half-dry layer or wet on dry layer (no overcoating time). High mechanical strength with exceptional resilience. Very high compressive strength, impact resistant even at low temperatures. Hardens with low shrinkage. Anti-caking properties when fully hardened. Hydrophobic and water repellent properties after hardening. Rust inhibitive and highly impervious to liquids and vapors. Excellent abrasion and chemical and thermal resistance up to 150°C.</p>	
Unsuitable material	PE, PP, PTFE, POM, Silicone. Depending on the composition of the material to be bonded, it's advisable to check the adhesion before use.	
Solvents and VOC	No solvents, VOC free, organochloride-free and CFC-free and CMR-free. Conformed to REACH and graded to RoHs Directive 2015/863/EU; Biocompatibility and fulfillment of the medical standard ISO10993; Approved for food contact according to EG 1935/2004 and EU 10/2011	
Properties	<p>Reactive glue with curing by polyaddition and with combined solidification mechanism. Non-thixotropic applications or thixotropic/non-sag for coating use. Very high static and dynamic strength, shockproof, abrasion resistant, aging-, UV- and weather-resistant, high tolerance to moisture and dust during application, excellent resistance to sea water, oils, diesel oil, alcohols, alkalis and very good resistance to many acids up to 50% concentration. Usable as an adhesive from -40°C / -40°F to +120°C / 248°F Usable as a coating &gt; 150°C / 302°F (wet &gt; 120°C / 212°F).</p>	
Standard package	In hobbock or canister of 10 Kg or 20 kg or drum of 200 kg for A and B component.	
Color	Standard version	Highly transparent (part number: MF-40-HTVH85D)
	Version thixotropic / non-sag	Translucent (part number: MF-40-TTXVH85D)
	Other colors on request: black, white, blue, red, yellow, gray, brown.	
Fillers and additives	Fillers like alumina flakes, stainless steel, ceramic, graphite etc. are available on request.	
Shelf life	At least one year after the manufacturing date at +5°C / 41°F to +45°C / 113°F (keep closed and protected against moisture!). After first use and proper re-sealing: 1 month.	

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Working conditions	<p>Recommended working temperature: +5°C / 59°F to +60°C / 150°F.</p> <p>Do not expose to direct sunlight, in order to avoid a possible uncontrolled curing of the glue. Avoid condensation of water (dew) on the bonding surface to prevent a negative effect on the quality of adhesion. A measurement of the dew point should be recommended for temperatures below +15°C / 59°F and very high humidity &gt; 80%. This should not drop under the dew point! If necessary, the surface to be bonded should be heated, as example with a heat gun. In case of temperatures below +5°C / 41°F, the glue must be kept warm e.g. in an inside a pocket or tempered by 35– 60°C / 95-140°F before use and the contact surface heated to max. +60°C / 140°F before applying Multiface®.</p>
Preparation of the contact surfaces	<p>The quality of adhesion depends largely on the contact surface preparation. The surface to be bonded must be dry, dust-free, oil- and grease-free, without an oxidation layer, and free from release agents and should have a surface tension of more than 38 mN/m. The best result is achieved by sandblasting with a roughness of 50 to 120 µm RZ. Alternative methods such as dry ice cleaning, laser cleaning, but also grinding lead to a significantly lower adhesion strength than with sandblasting. Optionally, the adhesion can be enhanced by flaming, which helps to remove the last possible residues of oil contamination. Finally, the abrasion dust must be removed, preferably by using an unsoiled natural air brush or with dry compressed air (oil-free!).</p>
Cleaning the contact surfaces	<p>The use of an alkaline cleaner or ethanol is recommended. Traditional solvents, chemical cleaners or etching agents should be avoided for health and safety reasons.</p>
Neutralization	<p>Due to the composition of Multiface®, chemical neutralization of metal or rubber or plastic surfaces after grinding or roughening is usually not necessary.</p>
Primer	<p>On metal surfaces or for floor coating use the epoxy glue <b>Multi-EP</b> from Hejatex as a primer (<b>non-toxic</b>). Wait full curing before overcoating with Multiface®, to avoid some chemical interaction.</p>
Method of application	<p>By using a brush or a roller or a pneumatical spraying gun, or an airless spraying gun. The best method is using a mixing and airless spraying gun with heated hoses.</p>
Mixing of both components as bulky material for airless spraying or applying with a roller by adding some solvents.	<p>Open the two buckets and put the required quantity in a separate bucket in mixing ratio 75:100 by weight (use a weighing machine). Use a standard mixer and mix thoroughly at 30 rpm both components for minimum 3 minutes.</p> <p>If necessary, you can exceptionally add up to 10% pure ethyl acetate or butyl acetate and mixing it during another minute to decrease the viscosity and to increase the adhesion strength on difficult surfaces. Make sure that the mixture is completely and homogenous mixed even on the edge of the bucket. An inhomogeneous mixture of the components leads to incomplete polymerization. Prepare the airless sprayer by using preferably a heating hose (+40-60°C / 104-140°F) to accelerate the hardening and to keep constant viscosity during spraying and to coat a thin and calibrated layer thickness (e.g. 0.1 mm)</p> <p>Caution: the chemical reaction is exothermic. The mixed amount should be as small as possible to ensure that it will be completely used within 20 minutes. The resulting heat can be so high that it can lead to burns! Only mix the amount that will be consumed and immediately dispose properly possible remainder.</p>
Application and overcoating time	<p>Evenly apply or spray Multiface® with the respective spraying gun or airless gun on the contact surface. If necessary, spread the material with a spatula to form a very thin layer or rub it with a short bristle brush into the pores to get the best possible adhesion.</p> <p>When used as wear and corrosion protection coating on vertical surfaces, layers of max. 0.4 mm per pass can be sprayed over each other with the thixotropic version. To ensure complete impermeability to liquids and vapors minimum 3 layers are required. The waiting time for overcoating is half of the pot time (20 minutes), to prevent the sprayed coating from flowing down. Basically, the ground layer can be overcoated by Multiface® wet on wet after 20 minutes waiting time or wet on half dry or wet on dry. Consequently, it can also be gradually applied over the pot life time on larger surfaces.</p>
Consumption	<p>The consumption is 1.22 kg/m<sup>2</sup> with 1 mm layer thickness.</p> <p>The quantity required for a closed layer is approximately 100-500 g/m<sup>2</sup>, depending on the task, the material and the roughness of the surface to be coated. With absorbent materials, the consumption may be significantly more. The minimum recommended thickness of 3 layers is approx. 1 mm (total consumption 1,220 g/m<sup>2</sup>).</p>

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Cleaning after application	Fresh and uncured material can be removed with a solvent (e.g. ethanol or better with butyl acetate to have a flash point over 20°C), preferably in a closed circuit. Already hardened material must be removed mechanically.		
Safety advices	<p>Conformity to REACH and RoHS 2015/863/EU Directive.          Approved for food contact according to EG 1935/2004 and EU 10/2011 after curing.          Non-hazardous transport. Low danger for people and for the environment during application.          In case of application with a brush or roller only a simple protection is required (gloves, protective clothing and eye protection).          In case of spray processing, it is mandatory to wear a level 3 chemical protective suit and a blower helmet with class TH2 to prevent sticking of aerosol particles on skin, hair, eyes and respiratory tract.          The general precautions for handling chemicals should be observed. Do not inhale fumes. Avoid contact with the eyes and skin. Wash hands during breaks and at the end of the job. Ensure adequate ventilation. Consult the safety data sheet.</p>		
Technical data	Hardness	After 24 h	80 ± 5 Shore (A)
		Final hardness after 2 weeks	85 ± 5 Shore (D)
	Specific weight:		1.22 ± 0.1 [g/cm <sup>3</sup> ]
	Viscosity at 23°C / 73°F	Component A	5,000 ± 2,200 mPa*s
		Component B	2,200 ± 500 mPa*s
	Pot life time at 23°C / 73°F	40 ± 5 min. (6 time increase of the viscosity)	
	Dry surface at 23°C / 73°F	5 hours ± 2 h at 23°C (at 5°C: 10 hours)	
	Return to service time	24 hours ± 4 h at 23°C (at 5°C: 48 hours)	
	Complete curing	14 days at 23°C / 73°F (at 5°C / 51°F: 14 days)	
	Strength at 23°C / 73°F	> 15 N/mm <sup>2</sup> (with > 50 % elongation at break)	
	Compressive strength	At 23°C after 7 days (ASTM D695)	> 120 N/mm <sup>2</sup>
	E-Module at 23°C / 73°F	At 23°C / 73°F	
	Typical shear resistance	Steel S235JR (1.0038) grid blasted	> 10 N/mm <sup>2</sup>
	Abrasion resistance	ASTND4060	
	Water absorption	At 85 °C / 185°F	
	Surface resistivity	Ohm (IEC 60093)	> 10 <sup>10</sup>
	Test voltage after 24 h	KV/100 µm	
	Shrinkage	At 23°C / 73°F	0.5% - 1.5 %

## 2. General information

The mentioned data and information are based on tests in our laboratory. Reliable statements about the behavior of the glue in practical use and the suitability for a specific use cannot be guaranteed. The suitability of the product for the provided use and all the necessary conditions must be tested by the user himself. The features and the physical and chemical properties of the used materials and the influences during transport, storage and procedure of use of the glue can have an impact on the behavior of the glue in comparison to the behavior in our laboratory. The mentioned data is measured in our laboratory and represents typical average values or values which have been measured only once. The mentioned data and information represent consequently no guarantee / assurance of the parameters or the suitability of the glue for a specific use. Please, also consult the safety data sheet.

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### 3. Standard packaging

		Highly transparent non-thixotropic		Transparent - translucent thixotropic	
<b>Bulky quantity</b> <ul style="list-style-type: none"><li>Canister or hobcock or drum for A component</li><li>Hobcock or drum for A component</li></ul>		MF-40-X-HTVH85D		MF-40-X-TTXVH85D	
Airless spraying gun portable for 1 L/min. or on rolls for 4 L/min. with heated hose 40°C-60°C / 105°F – 140°F					
Mixing and dosing unit ATEX certificated with Airless gun for 6 L/min. with heated hose 40°C-60°C / 105°F – 140°F					
<b>Protective helmet</b> for spray coating with blower respirator Protection against air-floating drops / aerosols (Protection class TH2)		WZ-MF-1090	3.00 Kg	