Technical data sheet - CYS Colored TPU

Description

CYS Colored TPU is an innovative, multi-layer TPU film (thermoplastic polyurethane) with a colored layer. TPU is naturally characterized by exceptional tear resistance, high aging resistance and impact strength.
With an impressive high gloss and intensive color depth, this film offers an incomparable look and at the same time a significantly improved protective effect for the paint compared to PVC. The matte versions are characterized in particular by their comparatively insensitive surface.

CYS Colored TPU also has a self-healing, only slightly hydrophobic coating, which also allows the film edges to overlap, so that “film-on-film” bonding is possible without any problems.

Developed in a three-year process by experienced practitioners, CYS Colored TPU is specially designed for full vehicle wrapping. In the glossy versions, air channel structures in the adhesive were deliberately omitted in order to achieve maximum brilliance. However, these films can be applied well with application fluid. The matte versions have air channels and can be applied dry.
Detailed information can be found in the care and processing instructions.

CYS Colored TPU is available in over 310 colors and designs; approx. 60 colors are available directly from stock in Germany.

Product structure:

- Protective film, to be removed
- Coating, self-healing
- TPU, top layer (transparent)
- TPU, Color layer
- TPU, bottom layer (white/grey/black colored)
- Pressure-activated adhesive
- Release Liner

Please note!

Before use, the user should check the suitability of the product for the intended use. The user assumes all associated risks and liabilities.
All data was collected in accordance with SGS certification test standards and methods.
SGS is an international institute for product testing and certification, results may vary if other test standards are used.
The technical information provided relates to representative products and should not be used for specification purposes.

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Film thickness	175-190 µ, depending on design/color (incl. Adhesive)
Without cover liner and protective film	
Protective film	PCL , to be removed before bonding
Cover liner	Matt PET 90µ
Gloss	> 90 GU (gloss unit)
Glossy versions only: Reference = 100 GU (high-gloss polished black glass)	
Adhesive	25 µ solvent polyacrylate, self-crosslinking, pressure-activated Matte design with air channel structure
Adhesive strength	Initial adhesion: 6N/25mm (recommended processing temperature = 18 - 23 °C) 15 minutes: 13.7N/25mm 24 hours: 17.9N/25mm
Sample on Mylar (PET)	(decisive are temperature, pressure and time)
Dimensional stability	0,1% shrinkage
Sample on steel plate, (23±2) ℃, (50±5) % humidity, 72 hours	
Tear resistance	23,7 Mpa until breakage
% Elongation to break	280% (Coating crack 190-260%)
SGS/Method: GB/T 1040.3-2006	
Low temperature	**No changes** ✓
-20°C/24 hours	
Acid resistance	**No changes** ✓
5% hydrochloric acid solution, immersion method, room temperature, 20min	
Alkali resistance	**No changes** ✓
5% sodium hydroxide solution, immersion method, room temperature, 20min	
Humidity & heat	**No changes** ✓
Constant 85°C /85% relative humidity, 168 hours	
Abrasion resistance	**No changes** ✓
SGS/Method: FORD FLTM BN 108-02-2001, 500 cycles, 60 rpm	
Neutral salt spray test	**No changes** ✓
SGS/ Method: NSS, exposure time 48 hours	
Solvent resistance	**No changes** ✓
Sample on steel plate, immersion method, room temperature, 30 min each a) methylated spirits: 1000 ml alcohol (AR) + 100 ml methanol (AR), mixture b) Gasoline c) 100 % synthetic engine oil SM 5W-40	
Light fastness / weathering	300 hours, grey scale 4-5, barely perceptible changes 2800 hours, grey scale 4-5, barely perceptible changes 2900 hours, grey scale 4 , barely perceptible changes
Xenon-arc Exposure: ISO 4892-2:2013/Amd.1:2021, Cycle 1 & ISO 105-A02:1993/Cor.2:2005	
Shelf life	2 years
Recommended: 20±2°C room temperature, relative humidity 40-60%, original packaging, horizontal	
Durability expectation*	up to 10 years
*Central European normal climate, normal environmental influences, no significant differences betweenvertical and horizontal bonding. This information is a guideline, but not a guarantee. The shelf lives that can actually be achieved depend on a number of individual factors, such as e.g. care, ambient conditions and preparation of the substrate to be bonded. Slight changes due to ageing are possible during the shelf life expectancy period. You can find detailed information on this topic in our processing instructions.	