IMPEX® IMPEX® HC IMPEX® MULTIWALL

HIPEX® LUMEX®

Transparent sheets for Data Centre & Control Cabinets

COMPOSITES

New technologies and innovations around AI are rapidly growing and the demand of powerful Data Centre solutions need to keep up with increasing workloads. High technology in Data Centre need materials fulfilling long-term and high performance requirements.

As one of the leading manufacturers of Polycarbonate & Polyester sheets in Germany, we offer a wide range of products with excellent impact strength, very high resistance to breaking and a very good fire classification. Our sheets are suitable for demanding applications such as protective glazing for IT & data centre equipment or control cabinets.

We offer both solid and multiwall sheets. Our own in-house coating facility for solid panels enables us also to apply abrasion-resistant coating to make the sheets even more scratch-resistant which is also a plus for more resistance to chemicals or solvents.

IMPEX®

IMPEX® is a high-quality polycarbonate for glazing applications with increased safety requirements.

Your benefits

- High impact resistance, material is very durable and long lasting
- Very good, certified fire resistance (B-s1, d0 in 1.5 – 6 mm)
- Lightweight – material is easy to work with and easy to install
- High temperature resistance and dimensional stability

Typical applications

Safety glazing, switch and server cabinet doors, protective covers with shatter protection in demanding industrial and production environments.

IMPEX® HC

IMPEX® HC combines the extreme impact resistance of polycarbonate with a hard-coated surface.

Additional benefits

- Significantly improved scratch and chemical resistance
- Longer service life even under harsh conditions

Typical applications

For demanding solutions in harsh environments including covers and sight glasses where material with improved chemical resistance and high surface quality are indispensable.

IMPEX® MULTIWALL

IMPEX® MULTIWALL combines all proven properties of polycarbonate to meat easy constructions in cooling containment equipment.

Your benefits
- Lightweight
- Good isolation properties
- Very good fire behaviour according to EN 13501-1 (B-s1, d0)

The standard range includes the colours clear, opal and bronze in different profile design versions.

Typical applications
A variety containment & separation applications where improved isolation is key.

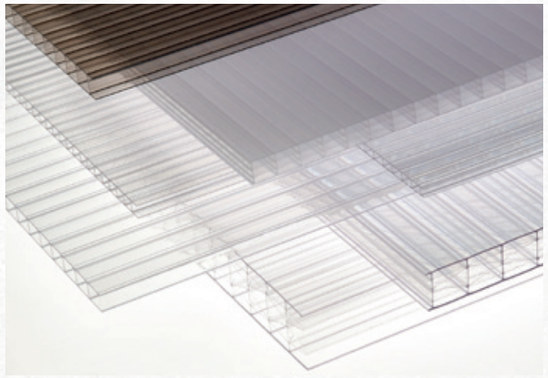
HIPEX® & LUMEX®

HIPEX® G and LUMEX® G offer a wide selection of transparent thermoplastic polyester sheets. In addition there are optional UV protection versions which offer good resistance to weathering if needed.

Your benefits
- Very high impact strength
- High formability
- Classified as "difficult-to-ignite" (B-s1, d0 in 0.8 – 10 mm)
- Very good printability
- Potential for food safety compliance
- Potential for biocompatibility

Typical applications
For demanding solutions in harsh environments including covers or sight glasses where material with excellent forming properties and improved chemical resistance are indispensable.

Image: AI-generated



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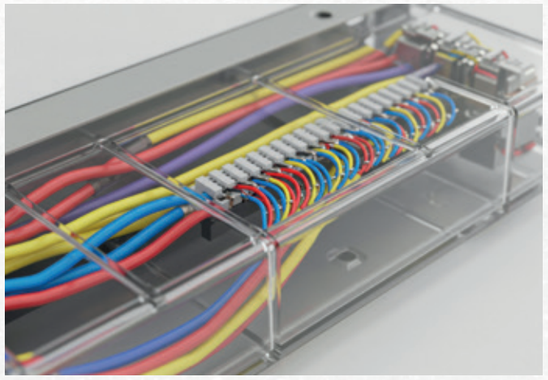

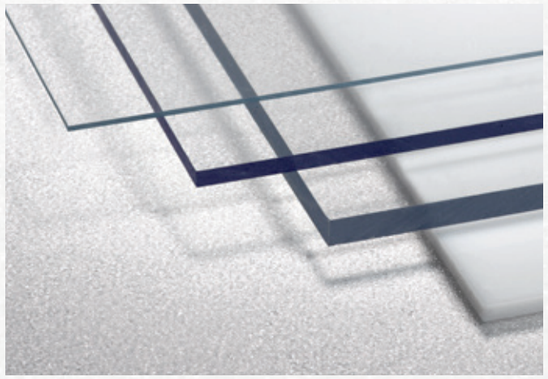

CONCLUSION

Data Centre, electronic & IT furniture are safety-critical components. They must withstand mechanical stress, chemical influences, temperature fluctuations, and optical requirements alike. Selecting the right material is crucial for function and safety to achieve an expanded service life. With **IMPEX®**, **IMPEX® HC**, **IMPEX® MULTIWALL**, **HIPEX®** and **LUMEX®** you always have the right material independent if you look for solid or multiwall sheet.

We would be happy to advise and support you individually in selecting materials, thicknesses, and processing options. For an initial selection, we have compared the most important material criteria for you below.

TECHNICAL DATA

GENERAL			IMPEX®	IMPEX® HC	HIPEX® G & LUMEX® G
Density	DIN EN ISO 1183	g/cm³	1.2	1.2	1.27

MECHANICAL			IMPEX®	IMPEX® HC	HIPEX® G & LUMEX® G
Flexural Modulus	DIN EN ISO 178	MPa	2000	–	1900
Flexural Strength	DIN EN ISO 178	MPa	> 90	–	70
Tensile Modulus	DIN EN ISO 527-2	MPa	2200	2400	2000
Tensile Strength	DIN EN ISO 527-2	MPa	60	65	50
Elongation	DIN EN ISO 527-2	%	80	16 (3 mm)	60
Impact strength Izod (notched)	DIN EN ISO 180	kJ/m²	> 10	64 P*1 (3 mm)	11.5
Impact strength Charpy (notched)	DIN EN ISO 179-1/1eA	kJ/m²	> 13	67 C*2 (3 mm)	7
Impact strength Charpy (unnotched)	DIN EN ISO 179-1	kJ/m²	No Break	No Break	No Break

OPTICAL			IMPEX®	IMPEX® HC	HIPEX® G & LUMEX® G
Light Transmission	DIN 5036 DIN EN 13468-1	%	86	86	88
Refractive Index	DIN EN ISO 489	n_D^{20}	1.585	–	1.57
Solar energy transmittance (g value)	EN 410	%	3 mm – 81.7 10 mm – 78.5	–	3 mm – 83 10 mm – 78
Taber – Abrasion test 100 cykles (3 mm)	DIN 52347 / ASTM D1044 Haze measurement: ISO 14782 / ASTM D1003	% Δ Haze	–	2 – 4	< 1

THERMAL			IMPEX®	IMPEX® HC	HIPEX® G & LUMEX® G
VICAT Temperature (method B50)	DIN EN ISO 306	°C	145	145	70
Specific Heat Capacity	DIN EN ISO 11357-4	J/gK	1.17	–	1.1
Max. service temperature (con. use)	–	°C	115	115	65
Forming temperature	–	°C	180 – 210	–	120 – 160

ELECTRICAL			IMPEX®	IMPEX® HC	HIPEX® G & LUMEX® G
Dielectric constant (50 Hz)	IEC 250 DIN 53483	–	3.0	–	2.6
Volume Resistivity	IEC 60093 DIN 53482	Ω.cm	10^{15}	10^{15}	> 10^{15}
Surface Resistivity	IEC 60093 DIN 53482	Ω	10^{15}	–	> 10^{16}
Dielectric strength	IEC 60243-1 DIN 53481	kV/mm	> 30	> 30	16
Dissipation Factor (50 Hz)	IEC 250 DIN 53483	–	8 x 10-4	–	0.01

Data Centre EN 07/2026

COMPOSITES

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