

## **Datasheet**

## Pocan ECOB3233HR 000000

PBT, 30% glass fibers, injection molding, improved flowability, hydrolysis stabilized

ISO Shortname: ISO 20028-PBT,GF30 REC,GHMRW,09-100

°C; 600 bar           Post- shrinkage, parallel         60x60x2; 120 °C; 4 h         %         ISO 294-4         0,1           Post- shrinkage, transverse         60x60x2; 120 °C; 4 h         %         ISO 294-4         0.1           Mechanical properties (23 °C/50 % r. h.)         CTensile modulus         1 mm/min         MPa         ISO 527-1,-2         9600           CTensile Stress at break         5 mm/min         MPa         ISO 527-1,-2         125           CTensile Strain at break         5 mm/min         %         ISO 527-1,-2         2.9           Charpy impact strength         23 °C         kJ/m²         ISO 179-1eU         65           Charpy impact strength         23 °C         kJ/m²         ISO 179-1eA         <10           CCharpy notched impact strength         23 °C         kJ/m²         ISO 179-1eA         <10           CCharpy notched impact strength         23 °C         kJ/m²         ISO 179-1eA         <10           Izod impact strength         23 °C         kJ/m²         ISO 180-1U         55           Izod impact strength         30 °C         kJ/m²         ISO 180-1U         55           Izod notched impact strength         23 °C         kJ/m²         ISO 180-1A         <10	Property	Test Condition	Unit	Standard	guide value <sup>1</sup>
C Molding shrinkage, parallel         60x60x2; 260 °C / MT 80 %         ISO 294-4         0.3           C Molding shrinkage, transverse         60x60x2; 260 °C / MT 80 %         ISO 294-4         1.0           Post- shrinkage, parallel         60x60x2; 120 °C; 4 h %         ISO 294-4         0.1           Post- shrinkage, transverse         60x60x2; 120 °C; 4 h %         ISO 294-4         0.1           Mechanical properties (23 °C/50 % r. h.)	Rheological properties				
C Molding shrinkage, transverse         60x60x2; 260 °C / MT 80 °C; 6000 bar         ISO 294-4         1.0           Post- shrinkage, parallel         60x60x2; 120 °C; 4 h % ISO 294-4         0,1           Post- shrinkage, transverse         60x60x2; 120 °C; 4 h % ISO 294-4         0,1           Post- shrinkage, transverse         60x60x2; 120 °C; 4 h % ISO 294-4         0,1           Mechanical properties (23 °C/50 % r. h.)         Imm/min         MPa         ISO 294-4         0,1           Mechanical properties (23 °C/50 % r. h.)         Imm/min         MPa         ISO 294-4         0,1           Censile Strain at break         5 mm/min         MPa         ISO 527-1,-2         9600           C Tensile Strain at break         5 mm/min         MPa         ISO 527-1,-2         125           C Charpy impact strength         23 °C         kJ/m²         ISO 179-1eU         65           C Charpy impact strength         30 °C         kJ/m²         ISO 179-1eU         65           C Charpy notched impact strength         30 °C         kJ/m²         ISO 179-1eA         <10	C Melt volume-flow rate	260 °C; 2.16 kg	cm <sup>3</sup> /(10 min)	ISO 1133-1	15
Post- shrinkage, parallel 60x60x2; 120 °C; 4 h % ISO 294-4 0,1 Post- shrinkage, transverse 60x60x2; 120 °C; 4 h % ISO 294-4 0,1  Mechanical properties (23 °C/50 % r. h.)  C Tensile modulus 1 mm/min MPa ISO 527-1,-2 9600  C Tensile Stress at break 5 mm/min MPa ISO 527-1,-2 125  C Tensile Stress at break 5 mm/min MPa ISO 527-1,-2 2.9  C Charpy impact strength 23 °C kJ/m² ISO 179-1eU 65  C Charpy impact strength 23 °C kJ/m² ISO 179-1eU 55  C Charpy notched impact strength 23 °C kJ/m² ISO 179-1eA <10  C Charpy notched impact strength 23 °C kJ/m² ISO 180-10A <10  C Charpy notched impact strength 23 °C kJ/m² ISO 180-10A <10  C Charpy notched impact strength 23 °C kJ/m² ISO 180-10A <10  C Charpy notched impact strength 23 °C kJ/m² ISO 180-10A <10  C D Charpy notched impact strength 23 °C kJ/m² ISO 180-10A <10  C D Charpy notched impact strength 23 °C kJ/m² ISO 180-10A <10  C D Charpy notched impact strength 23 °C kJ/m² ISO 180-10A <10  C D Charpy notched impact strength 23 °C kJ/m² ISO 180-10A <10  C D C C C KJ/m² ISO 180-10A <10  C D C C KJ/m² ISO 180-10A <10  C D C C C KJ/m² ISO 180-10A <10  C D C C C KJ/m² ISO 180-10A <10  C D C C C C KJ/m² ISO 180-10A <10  C D C C C C KJ/m² ISO 180-10A <10  C D C C C C KJ/m² ISO 180-10A <10  C D C C C C C KJ/m² ISO 180-10A <10  C D C C C C C C C C C C C C C C C C C	C Molding shrinkage, parallel		%	ISO 294-4	0.3
Post-shrinkage, transverse	C Molding shrinkage, transverse		%	ISO 294-4	1.0
Mechanical properties (23 °C/50 % r. h.)         Tensile modulus         1 mm/min         MPa         ISO 527-1,-2         9600           C Tensile Stress at break         5 mm/min         MPa         ISO 527-1,-2         125           C Tensile Stress at break         5 mm/min         % ISO 527-1,-2         2.9           C Charpy impact strength         23 °C         kJ/m²         ISO 179-1eU         65           C Charpy impact strength         -30 °C         kJ/m²         ISO 179-1eU         55           C Charpy notched impact strength         23 °C         kJ/m²         ISO 179-1eA         <10	Post- shrinkage, parallel	60x60x2; 120 °C; 4 h	%	ISO 294-4	0,1
CTensile modulus         1 mm/min         MPa         ISO 527-1,-2         9600           CTensile Stress at break         5 mm/min         MPa         ISO 527-1,-2         125           CTensile Strain at break         5 mm/min         % ISO 527-1,-2         2.9           CCharpy impact strength         23 °C         kJ/m²         ISO 179-1eU         65           CCharpy impact strength         -30 °C         kJ/m²         ISO 179-1eU         55           CCharpy notched impact strength         23 °C         kJ/m²         ISO 179-1eA         <10	Post- shrinkage, transverse	60x60x2; 120 °C; 4 h	%	ISO 294-4	0.1
CTensile Stress at break         5 mm/min         MPa         ISO 527-1,-2         125           CTensile Strain at break         5 mm/min         %         ISO 527-1,-2         2.9           CCharpy impact strength         23 °C         kJ/m²         ISO 179-1eU         65           CCharpy impact strength         -30 °C         kJ/m²         ISO 179-1eU         55           CCharpy notched impact strength         23 °C         kJ/m²         ISO 179-1eA         <10	Mechanical properties (23 °C/50 % r. h.)	,			
CTensile Strain at break         5 mm/min         %         ISO 527-1,-2         2.9           CCharpy impact strength         23 °C         kJ/m²         ISO 179-1eU         65           C Charpy impact strength         -30 °C         kJ/m²         ISO 179-1eU         55           C Charpy notched impact strength         -30 °C         kJ/m²         ISO 179-1eA         <10	C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	9600
C Charpy impact strength         23 °C         kJ/m²         ISO 179-1eU         65           C Charpy impact strength         -30 °C         kJ/m²         ISO 179-1eU         55           C Charpy notched impact strength         23 °C         kJ/m²         ISO 179-1eA         <10	C Tensile Stress at break	5 mm/min	MPa	ISO 527-1,-2	125
CCharpy impact strength -30 °C kJ/m² ISO 179-1eU 55  CCharpy notched impact strength 23 °C kJ/m² ISO 179-1eA <10  CCharpy notched impact strength -30 °C kJ/m² ISO 179-1eA <10  CCharpy notched impact strength -30 °C kJ/m² ISO 179-1eA <10  Izod impact strength 23 °C kJ/m² ISO 180-1U 55  Izod impact strength -30 °C kJ/m² ISO 180-1U 55  Izod notched impact strength 23 °C kJ/m² ISO 180-1U 55  Izod notched impact strength 23 °C kJ/m² ISO 180-1A <10  Izod notched impact strength 23 °C kJ/m² ISO 180-1A <10  Izod notched impact strength -30 °C kJ/m² ISO 180-1A <10  Flexural modulus 2 mm/min MPa ISO 178-A 9100  Flexural strength 2 mm/min MPa ISO 178-A 200  Flexural strength 2 mm/min % ISO 178-A 3.2  Thermal properties  CMelting temperature 10 °C/min °C ISO 11357-1,-3 225  C Temperature of deflection under load 1.80 MPa °C ISO 75-1,-2 205  C Temperature of deflection under load 0.45 MPa °C ISO 75-1,-2 220  Vicat softening temperature 50 N; 120 °C/h °C ISO 306 205  C Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 °/K ISO 11359-1,-2 1.3  C Burning behavior UL 94 1.5 mm Class UL 94 HB  Resistance to heat (ball pressure test) °C IEC 60695-2-12 800  Glow wire test (GWFI) 0.8 mm °C IEC 60695-2-12 800	C Tensile Strain at break	5 mm/min	%	ISO 527-1,-2	2.9
C Charpy notched impact strength         23 °C         kJ/m²         ISO 179-1eA         <10           C Charpy notched impact strength         -30 °C         kJ/m²         ISO 179-1eA         <10	C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	65
C Charpy notched impact strength         -30 °C         kJ/m²         ISO 179-1eA         <10           Izod impact strength         23 °C         kJ/m²         ISO 180-1U         55           Izod impact strength         -30 °C         kJ/m²         ISO 180-1U         55           Izod notched impact strength         23 °C         kJ/m²         ISO 180-1A         <10	C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	55
Izod impact strength	C Charpy notched impact strength	23 °C	kJ/m²	ISO 179-1eA	<10
Izod impact strength	C Charpy notched impact strength	-30 °C	kJ/m²	ISO 179-1eA	<10
Izod notched impact strength	Izod impact strength	23 °C	kJ/m²	ISO 180-1U	55
Izod notched impact strength	Izod impact strength	-30 °C	kJ/m²	ISO 180-1U	55
Flexural modulus	Izod notched impact strength	23 °C	kJ/m²	ISO 180-1A	<10
Flexural strength         2 mm/min         MPa         ISO 178-A         200           Flexural strain at flexural strength         2 mm/min         %         ISO 178-A         3.2           Thermal properties           C Melting temperature         10 °C/min         °C         ISO 11357-1,-3         225           C Temperature of deflection under load         1.80 MPa         °C         ISO 75-1,-2         205           C Temperature of deflection under load         0.45 MPa         °C         ISO 306         205           C Temperature of deflection under load         0.45 MPa         °C         ISO 306         205           C Temperature of deflection under load         0.45 MPa         °C         ISO 306         205           C Temperature of deflection under load         0.45 MPa         °C         ISO 306         205           C Temperature of deflection under load         0.45 MPa         °C         ISO 306         205           C Temperature of deflection under load         0.45 MPa         °C         ISO 306         205           C Temperature of deflection under load         0.45 MPa         °C         ISO 306         205           C Temperature of deflection under load         0.45 MPa         °C         ISO 306         205 <td>Izod notched impact strength</td> <td>-30 °C</td> <td>kJ/m²</td> <td>ISO 180-1A</td> <td>&lt;10</td>	Izod notched impact strength	-30 °C	kJ/m²	ISO 180-1A	<10
Flexural strain at flexural strength         2 mm/min         %         ISO 178-A         3.2           Thermal properties           C Melting temperature         10 °C/min         °C         ISO 11357-1,-3         225           C Temperature of deflection under load         1.80 MPa         °C         ISO 75-1,-2         205           C Temperature of deflection under load         0.45 MPa         °C         ISO 75-1,-2         220           Vicat softening temperature         50 N; 120 °C/h         °C         ISO 306         205           C Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.3           C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 °/K         ISO 11359-1,-2         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         HB           C Burning behavior UL 94         0.75 mm         Class         UL 94         HB           Resistance to heat (ball pressure test)         °C         IEC 60695-10-2         209           Glow wire test (GWFI)         0.8 mm         °C         IEC 60695-2-12         800           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         800 <td>Flexural modulus</td> <td>2 mm/min</td> <td>MPa</td> <td>ISO 178-A</td> <td>9100</td>	Flexural modulus	2 mm/min	MPa	ISO 178-A	9100
Thermal properties           C Melting temperature         10 °C/min         °C         ISO 11357-1,-3         225           C Temperature of deflection under load         1.80 MPa         °C         ISO 75-1,-2         205           C Temperature of deflection under load         0.45 MPa         °C         ISO 75-1,-2         220           Vicat softening temperature         50 N; 120 °C/h         °C         ISO 306         205           C Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 ⁴/K         ISO 11359-1,-2         0.3           C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 ⁴/K         ISO 11359-1,-2         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         HB           C Burning behavior UL 94         0.75 mm         Class         UL 94         HB           Resistance to heat (ball pressure test)         °C         IEC 60695-10-2         209           Glow wire test (GWFI)         0.8 mm         °C         IEC 60695-2-12         800           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         800	Flexural strength	2 mm/min	MPa	ISO 178-A	200
C Melting temperature         10 °C/min         °C         ISO 11357-1,-3         225           C Temperature of deflection under load         1.80 MPa         °C         ISO 75-1,-2         205           C Temperature of deflection under load         0.45 MPa         °C         ISO 75-1,-2         220           Vicat softening temperature         50 N; 120 °C/h         °C         ISO 306         205           C Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 °/K         ISO 11359-1,-2         0.3           C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 °/K         ISO 11359-1,-2         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         HB           C Burning behavior UL 94         0.75 mm         Class         UL 94         HB           Resistance to heat (ball pressure test)         °C         IEC 60695-10-2         209           Glow wire test (GWFI)         0.8 mm         °C         IEC 60695-2-12         800           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         800	Flexural strain at flexural strength	2 mm/min	%	ISO 178-A	3.2
C Temperature of deflection under load         1.80 MPa         °C         ISO 75-1,-2         205           C Temperature of deflection under load         0.45 MPa         °C         ISO 75-1,-2         220           Vicat softening temperature         50 N; 120 °C/h         °C         ISO 306         205           C Coefficient of linear thermal expansion, parallel         23 to 55 °C         10 ⁴/K         ISO 11359-1,-2         0.3           C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10 ⁴/K         ISO 11359-1,-2         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         HB           C Burning behavior UL 94         0.75 mm         Class         UL 94         HB           Resistance to heat (ball pressure test)         °C         IEC 60695-10-2         209           Glow wire test (GWFI)         0.8 mm         °C         IEC 60695-2-12         800           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         800	Thermal properties	,			
C Temperature of deflection under load         0.45 MPa         °C         ISO 75-1,-2         220           Vicat softening temperature         50 N; 120 °C/h         °C         ISO 306         205           C Coefficient of linear thermal expansion, parallel         23 to 55 °C         10°4/K         ISO 11359-1,-2         0.3           C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10°4/K         ISO 11359-1,-2         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         HB           C Burning behavior UL 94         0.75 mm         Class         UL 94         HB           Resistance to heat (ball pressure test)         °C         IEC 60695-10-2         209           Glow wire test (GWFI)         0.8 mm         °C         IEC 60695-2-12         800           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         800	C Melting temperature	10 °C/min	°C	ISO 11357-1,-3	225
Vicat softening temperature         50 N; 120 °C/h         °C         ISO 306         205           C Coefficient of linear thermal expansion, parallel         23 to 55 °C         10°4/K         ISO 11359-1,-2         0.3           C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10°4/K         ISO 11359-1,-2         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         HB           C Burning behavior UL 94         0.75 mm         Class         UL 94         HB           Resistance to heat (ball pressure test)         °C         IEC 60695-10-2         209           Glow wire test (GWFI)         0.8 mm         °C         IEC 60695-2-12         800           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         800	C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	205
C Coefficient of linear thermal expansion, parallel 23 to 55 °C 10 <sup>-4</sup> /K ISO 11359-1,-2 0.3  C Coefficient of linear thermal expansion, transverse 23 to 55 °C 10 <sup>-4</sup> /K ISO 11359-1,-2 1.3  C Burning behavior UL 94 1.5 mm Class UL 94 HB  C Burning behavior UL 94 0.75 mm Class UL 94 HB  Resistance to heat (ball pressure test) °C IEC 60695-10-2 209  Glow wire test (GWFI) 0.8 mm °C IEC 60695-2-12 800  Glow wire test (GWFI) 1.5 mm °C IEC 60695-2-12 800	C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	220
C Coefficient of linear thermal expansion, transverse         23 to 55 °C         10⁴/K         ISO 11359-1,-2         1.3           C Burning behavior UL 94         1.5 mm         Class         UL 94         HB           C Burning behavior UL 94         0.75 mm         Class         UL 94         HB           Resistance to heat (ball pressure test)         °C         IEC 60695-10-2         209           Glow wire test (GWFI)         0.8 mm         °C         IEC 60695-2-12         800           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         800	Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	205
C Burning behavior UL 94         1.5 mm         Class         UL 94         HB           C Burning behavior UL 94         0.75 mm         Class         UL 94         HB           Resistance to heat (ball pressure test)         °C         IEC 60695-10-2         209           Glow wire test (GWFI)         0.8 mm         °C         IEC 60695-2-12         800           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         800	C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	0.3
C Burning behavior UL 94         0.75 mm         Class         UL 94         HB           Resistance to heat (ball pressure test)         °C         IEC 60695-10-2         209           Glow wire test (GWFI)         0.8 mm         °C         IEC 60695-2-12         800           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         800	C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 <sup>-4</sup> /K	ISO 11359-1,-2	1.3
Resistance to heat (ball pressure test)         °C         IEC 60695-10-2         209           Glow wire test (GWFI)         0.8 mm         °C         IEC 60695-2-12         800           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         800	C Burning behavior UL 94	1.5 mm	Class	UL 94	НВ
Glow wire test (GWFI)         0.8 mm         °C         IEC 60695-2-12         800           Glow wire test (GWFI)         1.5 mm         °C         IEC 60695-2-12         800	C Burning behavior UL 94	0.75 mm	Class	UL 94	НВ
Glow wire test (GWFI) 1.5 mm °C IEC 60695-2-12 800	Resistance to heat (ball pressure test)	,	°C	IEC 60695-10-2	209
, ,	Glow wire test (GWFI)	0.8 mm	°C	IEC 60695-2-12	800
Glow wire test (GWFI) 3.0 mm °C IEC 60695-2-12 800	Glow wire test (GWFI)	1.5 mm	°C	IEC 60695-2-12	800
	Glow wire test (GWFI)	3.0 mm	°C	IEC 60695-2-12	800



### **Datasheet**

# Pocan ECOB3233HR 000000

Property	Test Condition	Unit	Standard	guide value <sup>1</sup>
Glow wire test (GWIT)	0.8 mm	°C	IEC 60695-2-13	825
Glow wire test (GWIT)	1.5 mm	°C	IEC 60695-2-13	825
Glow wire test (GWIT)	3.0 mm	°C	IEC 60695-2-13	825
Burning behavior US-FMVSS302			ISO 3795	passed
Electrical properties (23 °C/50 % r. h.)				
C Volume resistivity		Ohm∙m	IEC 62631-3	>1E14
C Surface resistivity		Ohm	IEC 62631-3	>1E15
C Electric strength	1 mm	kV/mm	IEC 60243-1	35
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	475
Other properties (23 °C)				
C Density		kg/m³	ISO 1183	1480
Processing conditions for test specimens				
C Injection molding-Melt temperature		°C	ISO 294	260
C Injection molding-Mold temperature	,	°C	ISO 294	80
Processing recommendations				
Drying temperature circulating air dryer		°C	=	120
Drying time circulating air dryer		h	-	4-8
Residual moisture content		%	Acc. to Karl Fischer	0.00-0.02
Melt temperature (Tmin - Tmax)		°C	-	250-270
Mold temperature	,	°C	-	80-100

#### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications

C These property characteristics are taken from the CAMPUS plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350.



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#### Disclaimer

Disclaimer for commercial products

This information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - 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.

Test values

Unless specified to the contrary, the values given have been established on standardized test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mould/die, the processing conditions and the coloring.

Processing note

Under the recommended processing conditions small quantities of decomposition product may be given off during processing. To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded. Since excessively high temperatures are generally the result of operator error or defects in the heating system, special care and controls are essential in these areas.

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