

Technical Literature F-01-06

Boiling Water Resistance of AURUM[®]

In the engineering plastics application areas, the engineering plastics are used in hot water in boiling (pressurized) condition as well as in acid, alkali and organic solvents in many cases.

Under such conditions, general-purpose engineering plastics such as PET, PBT and PC and those engineering plastics, like U polymer, which have ester bonds in the basic skeletons of the resin will decline sharply in their properties due to hydrolysis.

AURUM[®], having no ester bond in its polymer skeleton, is essentially not liable to hydrolysis but will decline significantly in elongation at break like other engineering plastics. In other words, since AURUM[®] will fall in energy causing materials failure under such conditions, becoming like a brittle resin, care should be taken in using it.

Table 1 shows percent changes in the properties of AURUM[®] that took place when it was immersed in hot water at 140°C and 160°C for 7 days.

Table 1 Boiling Water Resistance of AURUM[®]

(%)

		140°C x 7 days	160°C x 7 days
Retention percentage	Tensile strength	98	90
	Tensile elongation at break	20	15
	Tensile elasticity modulus	85	90
	Izod impact strength (with notch)	60	50
Water absorption		1.3	1.4

The information contained herein is based on the information and data available at this moment, but none of the data or evaluation results contained herein provide any warranty whatsoever.

Boiling Water Resistance of AURUM[®] (%)

(Film)

		120°C		140°C	
		1,000 hrs	2,000 hrs	1,000 hrs	2,000 hrs
Retention percentage	Tensile strength at yield point	110	115	0	0
	Tensile strength at break	90	95	110	120
Appearance		No change	No change	Turned seal brown	Turned seal brown

The information contained herein is based on the information and data available at this moment, but none of the data or evaluation results contained herein provide any warranty whatsoever.