Xyron molding conditions

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PPE/PS

		Non-Reinforced, Non Flame Retardant				
Grades		200H	300H	400H 500H	600H	1000H
Predrying Conditions	Temp.(°C)	80～90	90～100	90～100	90～100	100～120
	Time(Hr)	2～4	2～4	2～4	2～4	2～4
Molding Conditions	Resin Temp.(°C)	220～270	240～280	240～290	250～300	280～320
	Mold Temp.(°C)	40～70	50～80	50～80	60～90	80～120

		Non-Reinforced, Flame Retardant					
Grades		1950J 1951J	100V 100Z	240W 240V 240Z	340W 340V 340Z	440Z	PV40Z
Predrying Conditions	Temp.(°C)	70～80	70～80	80～90	90～100	90～100	90～100
	Time(Hr)	2～4	2～4	2～4	2～4	2～4	2～4
Molding Conditions	Resin Temp.(°C)	220～280	220～270	220～270	240～280	240～290	290～320
	Mold Temp.(°C)	40～70	40～70	40～70	50～80	50～80	60～100

		Non-Reinforced, Flame Retardant				
Grades		540V 540Z	640V 640Z	644Z	740V	SZ800
Predrying Conditions	Temp.(°C)	90～100	90～100	90～100	90～100	100～120
	Time(Hr)	2～4	2～4	2～4	2～4	2～4
Molding Conditions	Resin Temp.(°C)	240～300	250～320	260～320	250～320	280～320
	Mold Temp.(°C)	50～80	60～90	60～100	60～100	80～120

		Glass Fiber	High-Stiffness, Low-Warp, High-Flow		
Grades		G701H G702H G703H G701V G702V G703V	L542V/L542Z L543V/L543Z X1744/L544V L554V/L564V L564Z/L574Z	L565V	L654V
Predrying Conditions	Temp.(°C)	90～100	90～100	90～100	100～110
	Time(Hr)	2～4	2～4	2～4	2～4
Molding Conditions	Resin Temp.(°C)	260～300	250～300	260～310	270～310
	Mold Temp.(°C)	60～100	70～90	60～100	60～120

		High-Stiffness, Low-Warp			
Grades		X444H	X331V X332V	X1561	X531V X531Z
Predrying Conditions	Temp.(°C)	90～100	90～100	90～100	90～100
	Time(Hr)	2～4	2～4	2～4	2～4
Molding Conditions	Resin Temp.(°C)	250～300	240～300	240～280	250～300
	Mold Temp.(°C)	60～90	50～80	60～90	70～90

		High-Stiffness, Ultra Low-Warp			
Grades		X304H X404H L524V X1712	X604H	X1509 X1508	X603V
Predrying Conditions	Temp.(°C)	90～100	90～100	90～100	90～100
	Time(Hr)	2～4	2～4	2～4	2～4

Molding Conditions	Resin Temp. (°C)	250～300	260～300	240～300	270～310
	Mold Temp. (°C)	60～90	60～100	50～80	70～100

		Good Appearance Low-Warp		Electroconductive High-Stiffness Carbon Fiber	
Grades		X352H X351V X352V	X552H X551V X552V	X8610	X8401
Predrying Conditions	Temp.(°C)	100～110	100～110	90～100	90～100
	Time(Hr)	3～4	3～4	2～4	2～4
Molding Conditions	Resin Temp. (°C)	240～300	250～300	250～300	250～300
	Mold Temp. (°C)	50～80	70～90	60～90	60～90

		Acoustic Damping	
Grades		VN30V	VT31V VT31Z
Predrying Conditions	Temp.(°C)	90～100	100～110
	Time(Hr)	2～4	3～4
Molding Conditions	Resin Temp. (°C)	250～290	250～290
	Mold Temp. (°C)	50～80	50～80

		PA/PPE		
Grades		A0210 AT600 AT610 AT602	AG511 AG512	AG211 AG213
Predrying Conditions	Temp.(°C)	110～130	100～130	110～130
	Time(Hr)	2～3	3～4	2～4
Molding Conditions	Resin Temp. (°C)	280～300	260～300	280～300
	Mold Temp. (°C)	60～120	60～120	60～120

		PP/PPE			PPS/PPE
Grades		EV103	T0702	TT520	DG235 DG141 DV166
Predrying Conditions	Temp.(°C)	80～90	90～100	100～110	120
	Time(Hr)	1～2	2～4	3～4	3～4
Molding Conditions	Resin Temp. (°C)	230～260	250～290	250～280	300～330
	Mold Temp. (°C)	50～70	50～90	50～90	90～130

Molding

Pre-drying

Modified PPE has the lowest moisture absorption of any engineering plastic and displays excellent hydrolysis resistance. To help ensure against surface appearance faults such as silver streaks, it is nonetheless good practice to predry the material. For applications where surface appearance is critical, always be sure to predry the material. When using a PPE/PA grade, predrying is especially important due to the high moisture absorption properties of PA.

Predrying should be done at the proper temperature range specified for each grade. A closed loop dehumidifying/drying hopper system is the most efficient equipment for predrying Xyron. When using hot-air circulating ovens, Xyron pellets will be efficiently predried when spread out in trays at a uniform depth of 20 to 30 mm.

Take care to ensure that Xyron is not predried for longer than 8 hours. Excessive predrying may result in degradation of physical properties and color changes.

Regrind

Properly molded Xyron (sprues, runners, molded articles, etc.) may be reground, dried, and remolded without adverse effects. It is essential that material to be reground be free from oil, grease, dirt, and foreign substances, and shows no signs of degradation. Regrind levels up to 20% can be used successfully, but it is not advisable to use reground material for applications where surface appearances are critical.

Purging

High viscosity GPPS and Asaclean SA™ (available from Asahi Kasei Chemicals Corporation and distributors) are recommended purging materials for all Xyron grades. Purging should be performed at temperature ranges appropriate for each grade.

Downtime

In order to prevent polymer degradation when molding operation is stopped or interrupted, the following measures are recommended.

- Up to 30 minutes:
  Maintain cylinder temperature. Purge barrel using same material prior to the re-start of molding operation.
- From 30 minutes to 12 hours:
  Decrease cylinder temperature to 200▪20°C. Purge barrel using high viscosity GPPS. Upon commencement of molding operation, Purge barrel using material for molding after increasing cylinder temperature to the required level.
- For downtime longer than 12 hours:
  Purge barrel with high viscosity GPPS, and shut down machine.

Mold release

Generally, mold release agents are not required for molding Xyron resins. In cases where mold release agents are needed due to the complex shape of the mold, minimal use is recommended. Silicone-based mold release agents such as Pelicoat B™ (manufactured and sold by Chyukyo Kasei Kogyo Ltd., Japan) are recommended, as the chemical ingredients do not react with Xyron.

NOTE:
The information provided here is accurate to the best of our knowledge, based on all information and data available at this time, and is subject to change without notice. It is provided with no guarantee or assumption of liability whatsoever. It applies only to the normal handling and use of Xyron as a molding material. Any other use or application would necessitate additional, special safety precautions, and is not recommended.

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