

NOVATEC™ HD

			Injection							Pipes			
BASIC PROPERTIES	Unit	Method	HJ360	HJ363N	HJ451	HJ560	HJ580N	HJ491	HJ590N	HE121	HE212W	HE222W	HE421
MFR	g/10min	ISO 1872-2	5.5	5	2.3	7	12	20	40	0.2	0.05	0.12	0.14
Density	g/cm ³	ISO 1872-1,2	0.951	0.953	0.955	0.964	0.960	0.955	0.960	0.938	0.949	0.950	0.956
Tensile Strength at Yield	MPa	ISO 1872-2	21	23	22	25	25	22	24	19	24	26	29
Nominal Tensile Strain at Break	%	ISO 1872-2	>400	>400	80	>400	>400	100	90	>400	>400	>400	400
Flexural Modulus	MPa	ISO 1872-2	900	950	950	1,250	1,200	950	1,150	800	1,100	1,150	1,350
Charpy Impact Strength	kJ/m ²	ISO 1872-2	7	7	9	6	4	2	2	23	34	22	13
Durometer Hardness (Type D)	(HDD)	ISO 868	62	63	63	65	64	63	64	64	67	67	69
ESCR at Continuous Strain	h	ASTM D1693	-	-	-	-	-	-	-	>1000	>1000	>1000	>500
ESCR at Continuous Inner Pressure	h	JPE Method	-	-	-	-	-	-	-	-	-	-	-
Vicat Softening Temperature	°C	ISO 306	121	124	121	125	123	120	120	119	124	125	128
Melting Point	°C	ISO 11357-3	130	131	130	133	132	130	130	127	131	131	134
Brittleness Temperature	°C	ISO 974	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70
Test Specimens			Injection	Injection	Injection	Injection	Injection	Injection	Injection	Compressor	Compressor	Compressor	Compressor
Application			● Closure	● Closure	● Closure ● Food container	● Industrial parts	● Food container	● Food container	● Thin food container	● Gas Pipe	● Water Pipe ● Vacuum sewer pipe	● Water Pipe ● Vacuum sewer pipe	● Pipe ● Corrugated pipe
PL confirmation certificate for food applications (JPN)			Approved	Approved	Approved	Approved	Approved	Approved	Approved	-	Unapproved	-	Approved

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			Coating	Film					Extension				
BASIC PROPERTIES	Unit	Method	HE122R	HF111K	HF313	HF335	HF560	HF562	HY531	HY430	HY540	HY443	HY350
MFR	g/10min	ISO 1872-2	0.2	0.05	0.05	0.6	7.0	7.5	0.6	0.8	1.0	1.1	2.5
Density	g/cm ³	ISO 1872-1,2	0.938	0.945	0.950	0.949	0.963	0.963	0.958	0.954	0.960	0.956	0.952
Tensile Strength at Yield	MPa	ISO 1872-2	19	23	25	24	26	27	30	29	31	25	22
Nominal Tensile Strain at Break	%	ISO 1872-2	>400	>400	>400	200	>400	>400	>400	>400	>400	>400	>400
Flexural Modulus	MPa	ISO 1872-2	700	900	1,000	1,000	1,050	1,050	1,350	1,200	1,450	900	800
Charpy Impact Strength	kJ/m2	ISO 1872-2	20	No-Break	16	7	6	6	No-Break	No-Break	No-Break	No-Break	12
Durometer Hardness (Type D)	(HDD)	ISO 868	64	65	67	70	66	66	69	68	70	67	65
ESCR at Continuous Strain	h	ASTM D1693	>1000	>500	>500	-	-	-	-	-	-	-	20
ESCR at Continuous Inner Pressure	h	JPE Method	-	-	-	-	-	-	-	-	-	-	-
Vicat Softening Temperature	℃	ISO 306	119	122	125	-	128	-	128	127	129	-	122
Melting Point	℃	ISO 11357-3	128	130	132	130	134	134	135	135	135	133	132
Brittleness Temperature	℃	ISO 974	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70
Test Specimens			Compressor	Compressor	Compressor	Compressor	Injection	Injection	Compressor	Compressor	Compressor	Compressor	Injection
Application			<ul style="list-style-type: none"> ● Steel Pipe Coat ● Pipe ● Fuel Pipe 	<ul style="list-style-type: none"> ● Wide / Thin 	<ul style="list-style-type: none"> ● Plastic Bag 	<ul style="list-style-type: none"> ● Roll Type Plastic Bag ● Masking Tape 	<ul style="list-style-type: none"> ● Cast Film ● For Stiffness 	<ul style="list-style-type: none"> ● Cast Film ● For Stiffness 	<ul style="list-style-type: none"> ● Flat Yarn 	<ul style="list-style-type: none"> ● Flat Yarn ● Monofilament Yarn 	<ul style="list-style-type: none"> ● Flat Yarn 	<ul style="list-style-type: none"> ● Flat Yarn ● Multilayer Film 	<ul style="list-style-type: none"> ● Flat Yarn ● Cast Film ● Stretch Film
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HD-3
2022/10/16

			Blow Molding (Small Bottles)						Blow Molding (Large Bottles)		Fiber		Extrusion Coating
BASIC PROPERTIES	Unit	Method	HB122R	HB330K	HB332EK	HB330EBP	HB423RN	HB530	HB216R	HB111R	HE481	HE490	HS471
MFR	g/10min	ISO 1872-2	0.2	0.35	0.35	0.35	0.25	0.3	HL* 5	HL* 6	13	22	10
Density	g/cm ³	ISO 1872-1,2	0.938	0.953	0.953	0.953	0.957	0.962	0.947	0.945	0.956	0.956	0.956
Tensile Strength at Yield	MPa	ISO 1872-2	19	26	26	26	28	29	25	24	24	23	22
Nominal Tensile Strain at Break	%	ISO 1872-2	>400	>400	>400	>400	>400	>400	>400	>400	>400	200	>400
Flexural Modulus	MPa	ISO 1872-2	800	1,350	1,350	1,350	1,500	1,700	1,000	900	900	900	770
Charpy Impact Strength	kJ/m ²	ISO 1872-2	17	8	8	10	15	11	No-Break	No-Break	4	3	7
Durometer Hardness (Type D)	(HDD)	ISO 868	58	63	63	63	64	66	65	65	65	64	69
ESCR at Continuous Strain	h	ASTM D1693	>1000	>1000	>1000	>1000	20	50	100	>1000	-	-	-
ESCR at Continuous Inner Pressure	h	JPE Method	>1000	60	60	40	2	2	-	-	-	-	-
Vicat Softening Temperature	℃	ISO 306	118	123	123	126	128	128	124	123	-	-	121
Melting Point	℃	ISO 11357-3	127	131	131	131	134	135	130	129	133	133	132
Brittleness Temperature	℃	ISO 974	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70	<-70
Test Specimens			Compressor	Compressor	Compressor	Compressor	Compressor	Compressor	Compressor	Compressor	Injection	Injection	Injection
Application			●Detergent Bottle	●Detergent Bottle	●Detergent Bottle	●Detergent Bottle	●Food Package	●Containers	●Large Tank	●Fuel Tank	●Fiber (For spun)	●Fiber (For Multi)	●Extruded Lamination ●Converted
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* Pressure 21.6kg

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