

エボリュー®(キャストフィルム) 銘柄物性表
Evolue® (Cast Film) Product Data Sheet
Evolue®(流延薄膜) 牌号物性表

EVOLUE(C6-LLDPE)

株式会社プライムポリマー
Prime Polymer Co.,Ltd.
普瑞曼聚合物株式会社

物性項目 Properties 物性項目		単位 Unit 単位	測定方法*1 Method of measurement 試験方法		フィルム(キャスト) Cast Film・薄膜(流延)						
			JIS K	ASTM	SP0540	SP1540	SP2040	SP2540	SP3530	SP4030	
基本物性 General properties 基本物性	メルトマスフローレート Melt-mass flow rate 融指	g/10min	7210		3.8	3.8	3.8	3.8	3.2	3.8	
	密度 Density 密度	kg/m ³	7112		903	913	918	924	931	938	
機械的性質 Mechanical properties 機械特性	引張降伏応力 Tensile stress at yield 屈服点応力	MPa	7161 7162		—	—	—	10	13	15	
	引張破壊応力 Tensile stress at break 断裂拉伸応力	MPa			>16	>18	>19	>20	16	>21	
	引張破壊呼びひずみ Nominal tensile strain at break 断裂伸長率	%			>500	>500	>500	>500	360	>500	
	曲げ弾性率 Modulus of elasticity in flexure 弯曲弾性率	MPa	7171		120	190	220	270	430	550	
	シャルピー衝撃強さ Charpy impact strength 摆锤冲击強度	kJ/m ²	7111		NB	NB	NB	NB	NB	NB	
	タイプDデュロメーター硬さ Durometer hardness (D scale) D型肖氏硬度	—	7215		49	54	55	56	58	59	
化学的性質 Chemical properties 化学特性	耐環境応力亀裂 E.S.C.R 耐环境応力开裂性	時間 hours	—	D1693	>1000	>1000	>1000	>1000	>1000	>1000	
熱的性質 Thermal properties 熱特性	ビカント軟化点 Vicat Softning point 维卡软化点	℃	7206		83	96	101	106	110	114	
	融点 Melting point 融点	℃	7121		90	112	114	119	122	127	
特長 Advantages 特长					超低温ヒートシール性 Urtla-low Temp Heat Seal 超低温熱封性	低温ヒートシール性 Low Temp Heat Seal 低温熱封性		剛性 Stiffness 剛性			
					耐衝撃性 High Impact Strength 高冲击強度	高速成形性 High Speed Mouldability 高速成型性					
											耐薬品性 Chemical Resistance 抗化学性
主な用途 Major Applications 主要用途					貼合フィルム Lamination Film 複合膜						
					ストレッチ Stretch Film・纏繞膜						
JCII 化学研究評価機構 自主基準 確認登録 JCII self-restrictive standards					有・Yes	有・Yes	有・Yes	有・Yes	有・Yes	有・Yes	

*1 試験片はJIS K7151および7152に従って作製(試験荷重は2.16kg)
メルトフローレート1g／10min以上：射出成形試験片
メルトフローレート1g／10min未満：圧縮成形試験片

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◇ この資料の内容は、改良のため予告なく変更することがありますので、ご了承下さい。

*1 Specimen preparation according to JIS K7151 (ISO293) and 7152 (ISO294) (Load at 2.16kg)
Melt Index above 1g/10min: Injection molding specimen
Melt Index below 1g/10min: Pressed sheet specimen

◇ Data described in this catalog are representative figures obtained by measurement under specific conditions.
◇ Uses described in this catalog do not necessarily assure results of certain product applications.
◇ When using this product for uses introduced in this catalog, care should be taken not to infringe on industrial property rights.
◇ This product is not applied to medical appliance and medical supplies packing use.
◇ Information contained in this catalog is subject to change with or without notice.

*1 试验样片比照JIS K7151 (ISO293) 及7152 (ISO294)制作而成(试验负载2.16kg)
融指1g/10min以上:射出成型试验样片
融指1g/10min以下:压缩成型试验样片

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FILM GRADE



SP0510

- ◆ EXCELLENT MECHANICAL PROPERTIES
- ◆ EXCELLENT HEAT SEAL PROPERTIES

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP0510
Melt Flow Rate	g/10min	1133	190°C	1.2
Density	kg/m ³	1183	-	904
Tensile Stress @ Yield	Mpa	527-1,2	-	-
Tensile Strength @ Break	Mpa	527-1,2	-	18
Tensile Strain @ Break	%	527-1,2	-	>500
Stiffness (Flexus Modulus)	Mpa	178	-	110
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	49
Environmental Stress Crack Resistance	hrs	D1693 (ASTM)	-	>1000
Vicat Softening Point	°C	306	-	85
Melting Point	°C	11357-3	-	98

* The figures shown above are representative but not specification values.



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FILM GRADE

SP0540

- ◆ EXCELLENT HEAT SEAL PROPERTIES
- ◆ EXCELLENT MECHANICAL PROPERTIES
- ◆ EXCELLENT OPTICAL PROPERTIES

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP0540
Melt Flow Rate	g/10min	1133	190°C	3.8
Density	kg/m ³	1183	-	903
Tensile Stress @ Yield	Mpa	527-1,2	-	-
Tensile Strength @ Break	Mpa	527-1,2	-	>16
Tensile Strain @ Break	%	527-1,2	-	>500
Stiffness (Flexus Modulus)	Mpa	178	-	120
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	49
Environmental Stress Crack Resistance	hrs	D1693 (ASTM)	-	>1000
Vicat Softening Point	°C	306	-	83
Melting Point	°C	11357-3	-	98

* The figures shown above are representative but not specification values.



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FILM GRADE



SP1510

- ◆ EXCELLENT MECHANICAL PROPERTIES
- ◆ EXCELLENT HEAT SEAL PROPERTIES

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP1510
Melt Flow Rate	g/10min	1133	190°C	1.0
Density	kg/m ³	1183	-	915
Tensile Stress @ Yield	Mpa	527-1,2	-	-
Tensile Strength @ Break	Mpa	527-1,2	-	18
Tensile Strain @ Break	%	527-1,2	-	>500
Stiffness (Flexus Modulus)	Mpa	178	-	160
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	54
Environmental Stress Crack Resistance	hrs	D1693(ASTM)	-	>1000
Vicat Softening Point	°C	306	-	98
Melting Point	°C	11357-3	-	116

* The figures shown above are representative but not specification values.



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FILM GRADE



SP1520

- ◆ EXCELLENT MECHANICAL PROPERTIES
- ◆ EXCELLENT HEAT SEAL PROPERTIES

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP1520
Melt Flow Rate	g/10min	1133	190°C	2.0
Density	kg/m ³	1183	-	913
Tensile Stress @ Yield	Mpa	527-1,2	-	-
Tensile Strength @ Break	Mpa	527-1,2	-	16
Tensile Strain @ Break	%	527-1,2	-	350
Stiffness (Flexus Modulus)	Mpa	178	-	160
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	54
Environmental Stress Crack Resistance	hrs	D1693(ASTM)	-	>1000
Vicat Softening Point	°C	306	-	96
Melting Point	°C	11357-3	-	116

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FILM GRADE

SP1540

- ◆ EXCELLENT OPTICAL PROPERTIES
- ◆ EXCELLENT HEAT SEAL PROPERTIES
- ◆ EXCELLENT MECHANICAL PROPERTIES

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP1540
Melt Flow Rate	g/10min	1133	190°C	3.8
Density	kg/m ³	1183	-	913
Tensile Stress @ Yield	Mpa	527-1,2	-	-
Tensile Strength @ Break	Mpa	527-1,2	-	>18
Tensile Strain @ Break	%	527-1,2	-	>500
Stiffness (Flexus Modulus)	Mpa	178	-	190
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	54
Environmental Stress Crack Resistance	hrs	D1693 (ASTM)	-	>1000
Vicat Softening Point	°C	306	-	96
Melting Point	°C	11357-3	-	113

* The figures shown above are representative but not specification values.



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FILM GRADE



SP2020

- ◆ EXCELLENT PROCESSABILITY
- ◆ EXCELLENT MECHANICAL PROPERTIES
- ◆ EXCELLENT HEAT SEAL PROPERTIES

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP2020
Melt Flow Rate	g/10min	1133	190°C	2.3
Density	kg/m ³	1183	-	916
Tensile Stress @ Yield	Mpa	527-1,2	-	-
Tensile Strength @ Break	Mpa	527-1,2	-	17
Tensile Strain @ Break	%	527-1,2	-	350
Stiffness (Flexus Modulus)	Mpa	178	-	220
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	54
Environmental Stress Crack Resistance	hrs	D1693 (ASTM)	-	>1000
Vicat Softening Point	°C	306	-	93
Melting Point	°C	11357-3	-	116

* The figures shown above are representative but not specification values.



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CROSS-LINKED CABLE GRADE

SP2030

- ◆ HIGH CROSSLINKING DEGREE
- ◆ EXCELLENT MECHANICAL PROPERTIES
- ◆ EXCELLENT HEAT RESISTANCE

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP2030
Melt Flow Rate	g/10min	1133	190°C	2.3
Density	kg/m ³	1183	-	922
Tensile Stress @ Yield	Mpa	527-1,2	-	-
Tensile Strength @ Break	Mpa	527-1,2	-	>20
Tensile Strain @ Break	%	527-1,2	-	>500
Stiffness (Flexus Modulus)	Mpa	178	-	260
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	55
Environmental Stress Crack Resistance	hrs	D1693 (ASTM)	-	>1000
Vicat Softening Point	°C	306	-	106
Melting Point	°C	11357-3	-	122

* The figures shown above are representative but not specification values.



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FILM GRADE

SP2040

- ◆ EXCELLENT MECHANICAL PROPERTIES
- ◆ EXCELLENT HEAT SEAL PROPERTIES
- ◆ EXCELLENT OPTICAL PROPERTIES

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP2040
Melt Flow Rate	g/10min	1133	190°C	3.8
Density	kg/m ³	1183	-	918
Tensile Stress @ Yield	Mpa	527-1,2	-	-
Tensile Strength @ Break	Mpa	527-1,2	-	>19
Tensile Strain @ Break	%	527-1,2	-	>500
Stiffness (Flexus Modulus)	Mpa	178	-	220
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	55
Environmental Stress Crack Resistance	hrs	D1693 (ASTM)	-	>1000
Vicat Softening Point	°C	306	-	101
Melting Point	°C	11357-3	-	116

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FILM GRADE

SP2320

- ◆ EXCELLENT PROCESSABILITY
- ◆ EXCELLENT OPTICAL PROPERTIES
- ◆ EXCELLENT MECHANICAL PROPERTIES
- ◆ EXCELLENT HEAT SEAL PROPERTIES

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP2320
Melt Flow Rate	g/10min	1133	190°C	1.9
Density	kg/m ³	1183	-	920
Tensile Stress @ Yield	Mpa	527-1,2	-	-
Tensile Strength @ Break	Mpa	527-1,2	-	19
Tensile Strain @ Break	%	527-1,2	-	350
Stiffness (Flexus Modulus)	Mpa	178	-	240
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	55
Environmental Stress Crack Resistance	hrs	D1693 (ASTM)	-	>1000
Vicat Softening Point	°C	306	-	101
Melting Point	°C	11357-3	-	118

* The figures shown above are representative but not specification values.



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FILM GRADE

SP2510

- ◆ EXCELLENT PROCESSABILITY
- ◆ EXCELLENT MECHANICAL PROPERTIES
- ◆ EXCELLENT ANTI-BLOCKING PROPERTIES
- ◆ EXCELLENT HEAT SEAL PROPERTIES

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP2510
Melt Flow Rate	g/10min	1133	190°C	1.5
Density	kg/m ³	1183	-	923
Tensile Stress @ Yield	Mpa	527-1,2	-	-
Tensile Strength @ Break	Mpa	527-1,2	-	20
Tensile Strain @ Break	%	527-1,2	-	350
Stiffness (Flexus Modulus)	Mpa	178	-	260
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	56
Environmental Stress Crack Resistance	hrs	D1693 (ASTM)	-	>1000
Vicat Softening Point	°C	306	-	103
Melting Point	°C	11357-3	-	121

* The figures shown above are representative but not specification values.



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FILM GRADE

SP2520

- ◆ EXCELLENT PROCESSABILITY
- ◆ EXCELLENT HEAT RESISTANCE
- ◆ EXCELLENT STIFFNESS
- ◆ EXCELLENT MECHANICAL PROPERTIES
- ◆ EXCELLENT ANTI-BLOCKING PROPERTIES

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP2520
Melt Flow Rate	g/10min	1133	190°C	1.9
Density	kg/m ³	1183	-	925
Tensile Stress @ Yield	Mpa	527-1,2	-	-
Tensile Strength @ Break	Mpa	527-1,2	-	20
Tensile Strain @ Break	%	527-1,2	-	350
Stiffness (Flexus Modulus)	Mpa	178	-	320
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	56
Environmental Stress Crack Resistance	hrs	D1693(ASTM)	-	>1000
Vicat Softening Point	°C	306	-	105
Melting Point	°C	11357-3	-	122

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TUBE GRADE

SP2530S

- ◆ EXCELLENT HEAT SEAL PROPERTIES
- ◆ EXCELLENT MECHANICAL PROPERTIES
- ◆ EXCELLENT STRESS CRACK RESISTANCE

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP2530S
Melt Flow Rate	g/10min	1133	190°C	1.9
Density	kg/m ³	1183	-	920
Tensile Stress @ Yield	Mpa	527-1,2	-	-
Tensile Strength @ Break	Mpa	527-1,2	-	19
Tensile Strain @ Break	%	527-1,2	-	350
Stiffness (Flexus Modulus)	Mpa	178	-	240
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	54
Environmental Stress Crack Resistance	hrs	D1693(ASTM)	-	>1000
Vicat Softening Point	°C	306	-	105
Melting Point	°C	11357-3	-	122

* The figures shown above are representative but not specification values.



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FILM GRADE



SP2540

- ◆ EXCELLENT PROCESSABILITY
- ◆ EXCELLENT HEAT SEAL PROPERTIES
- ◆ EXCELLENT STIFFNESS
- ◆ EXCELLENT MECHANICAL PROPERTIES

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP2540
Melt Flow Rate	g/10min	1133	190°C	3.8
Density	kg/m ³	1183	-	924
Tensile Stress @ Yield	Mpa	527-1,2	-	10
Tensile Strength @ Break	Mpa	527-1,2	-	>20
Tensile Strain @ Break	%	527-1,2	-	>500
Stiffness (Flexus Modulus)	Mpa	178	-	270
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	56
Environmental Stress Crack Resistance	hrs	D1693(ASTM)	-	>1000
Vicat Softening Point	°C	306	-	106
Melting Point	°C	11357-3	-	120

* The figures shown above are representative but not specification values.



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FILM GRADE

SP3010

- ◆ EXCELLENT ANTI-BLOCKING PROPERTIES
- ◆ EXCELLENT STIFFNESS
- ◆ EXCELLENT HEAT RESISTANCE
- ◆ EXCELLENT MECHANICAL PROPERTIES

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP3010
Melt Flow Rate	g/10min	1133	190°C	0.8
Density	kg/m ³	1183	-	926
Tensile Stress @ Yield	Mpa	527-1,2	-	13
Tensile Strength @ Break	Mpa	527-1,2	-	>25
Tensile Strain @ Break	%	527-1,2	-	>500
Stiffness (Flexus Modulus)	Mpa	178	-	490
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	54
Environmental Stress Crack Resistance	hrs	D1693(ASTM)	-	>1000
Vicat Softening Point	°C	306	-	106
Melting Point	°C	11357-3	-	124

* The figures shown above are representative but not specification values.



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ROTO MOLDING GRADE



PRIME POLYMER

SP4030

- ◆ EXCELLENT MECHANICAL PROPERTIES
- ◆ EXCELLENT RIGIDITY AND TOUGHNESS
- ◆ EXCELLENT HEAT RESISTANCE
- ◆ EXCELLENT STRESS CRACKING RESISTANCE (ROTATION MOLDING)
- ◆ SUPERIOR OIL RESISTANCE (ROTATION MOLDING)

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP4030
Melt Flow Rate	g/10min	1133	190°C	3.8
Density	kg/m ³	1183	-	938
Tensile Stress @ Yield	Mpa	527-1,2	-	15
Tensile Strength @ Break	Mpa	527-1,2	-	>21
Tensile Strain @ Break	%	527-1,2	-	>500
Stiffness (Flexus Modulus)	Mpa	178	-	550
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	58
Environmental Stress Crack Resistance	hrs	D1693(ASTM)	-	>1000
Vicat Softening Point	°C	306	-	114
Melting Point	°C	11357-3	-	127

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FILM GRADE

SP4530

- ◆ EXCELLENT MECHANICAL PROPERTIES
- ◆ EXCELLENT RIGIDITY AND TOUGHNESS
- ◆ EXCELLENT HEAT RESISTANCE

PHYSICAL PROPERTIES

PROPERTIES	UNIT	TEST METHOD (ISO)	TEST CONDITION	SP4530
Melt Flow Rate	g/10min	1133	190°C	2.8
Density	kg/m ³	1183	-	946
Tensile Stress @ Yield	Mpa	527-1,2	-	-
Tensile Strength @ Break	Mpa	527-1,2	-	>17
Tensile Strain @ Break	%	527-1,2	-	>500
Stiffness (Flexus Modulus)	Mpa	178	-	720
Charpy Impact Strength	kJ/m ²	179-1	-	NB
Hardness	-	868	Shore D	62
Environmental Stress Crack Resistance	hrs	D1693(ASTM)	-	>1000
Vicat Softening Point	°C	306	-	120
Melting Point	°C	11357-3	-	131

* The figures shown above are representative but not specification values.