



Plastic & polymer additives and solution supplier
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Technical Data Sheet

ProFlame® EFBPP101

EFBPP101 is low halogen flame retardant with phosphorus-nitrogen-bromine (bromine content < 900 ppm). Comparing with traditional bromine flame retardants, EFBPP101 is lower dosage, not separate out and don't need to add Sb₂O₃. With EFBPP101 the formula can reach UL94 - V2 (1.5 mm), and pass GWIT 750 °C and GWFI 850 °C testing.

Benefits

- Low halogen (bromine content < 900 ppm)
- Low dosage and high efficient (dosage 1.7-3.0phr for UL94-V2)
- excellent aging resistance
- low density
- Low smoke density and low smoke gas corrosivity

Technical Data

Items	Spec
Appearance	White free-flowing powder
P content, %	≥14.0
Particle size D50, um	≈30
Density, g/cm ³	1.65-1.75
Volatile, %	≤0.5
Whiteness	≥88

Recommended dosage

Polymer	HOMO-PP	CO-PP
EFBPP101 Dosage, %	0.7-0.8	2-3
Filler dosage, %	0-20	0-10
UL-94	V-2	V-2
GWFI 850 °C	Pass	Pass
GWIT 750 °C	Pass	Pass

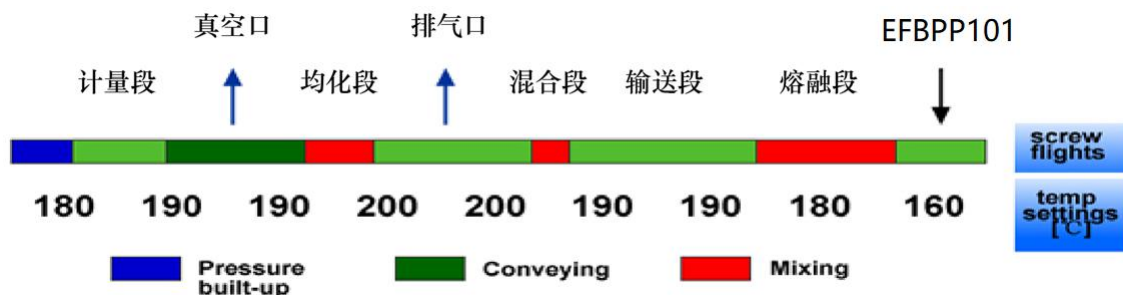
Processing precautions

- Together with bromine-antimony system or carbon black, flame retardant efficiency will be poor.
- Do not add calcium carbonate as filler.
- It is recommended to use screw assembly with weak shear.



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Processing instruction:



Package & Storage:

Net weight 25KG Kraft bag with PE liner.

Minimum shelf life is 12 months stored in a dry and ventilated warehouse.

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The information presented herein is believed to be accurate and reliable, but is presented without guarantee or responsibility on the part of Novista Group and its subsidiaries. It is the responsibility of the user to comply with all licable laws and regulations and to provide for a safe workplace. The user should consider any health or safety hazards or information contained herein only as a guide, and should take those precautions which are necessary or prudent to instruct employees and to develop work practice procedures in order to promote a safe work environment. Further, nothing contained herein shall be taken as an inducement or recommendation to manufacture or use any of the herein materials or processes in violation of existing or future patent.



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Typical Application Data 1-1

Material	Formula 1	Formula 2	Formula 3	Formula 4
Homo-PP	967	867	250	150
Co-PP	0	0	715	715
EFBPP101	28	28	30	30
EBS	2	2	2	2
Antioxidant 1010	1	1	1	1
Antioxidant 168	2	2	2	2
Talc	0	100	0	100

Properties 1-2

Item	Testing method	Unit	Homo-PP	Co-PP	Formula1	Formula2	Formul3	Formul4
Density	ASTM D-792	g/cm3	0.89	0.90	0.89	0.99	0.90	1.00
MFI 230°C, 21.6kg	ASTM D-955	g/10min	11.0	8.5	12.0	15.5	10.5	12.0
Tensile Strength	ASTM D-638	Mpa	34.0	26.0	33.0	34.0	26.0	25.0
Flexural Strength	ASTM D-790	Mpa	36.0	28.0	36.0	45.0	29.0	36.0
Flexural modulus	ASTM D-790	Mpa	1400	950	1500	2100	1000	1450
Notch impact strength	ASTM D-256	J/m	28.0	80.0	27.0	24.0	75.0	55.0
Flame Resistance	UL94	1.5mm	NG	NG	NG	V-2	V-2	V-2
		3.0mm	NG	NG	NG	V-2	V-2	V-2
	UL94 (120°C,7days)	1.5mm	\	\	V-2	V-2	V-2	V-2
		3.0mm	\	\	V-2	V-2	V-2	V-2
	UL94 (120°C,7days)	1.5mm	\	\	V-2	V-2	V-2	V-2
		3.0mm	\	\	V-2	V-2	V-2	V-2
	UL94 (120°C,7days)	1.5mm	\	\	V-2	V-2	V-2	V-2
		3.0mm	\	\	V-2	V-2	V-2	V-2
	GWIT	3.0mm	NG	NG	750°C	750°C	750°C	750°C
	GWFI	3.0mm	NG	NG	850°C	850°C	850°C	850°C



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Recommended screw assembly:

36 机(螺纹块总共 40 块, 长度 1274mm)			75 机(螺纹块总共 48 块, 长度 3164mm)																																																																																																																																																																								
机头			机头																																																																																																																																																																								
1	22/22	142mm	1	56/56	392mm																																																																																																																																																																						
2	22/22		3	22/22		4	22/22	5	22/22	6	32/32	7	48/48	真空口	7	96/96	真空口	8	48/48	8	96/96	9	12/12L	364mm	9	45°/5/36L	1320mm	10	30°/7/48	11	32/32	12	32/32	13	32/32	14	32/32	15	32/32	16	32/32	17	45°/5/32	18	45°/5/32	19	48/48	玻纤口 (封闭)	19	90°/5/56	玻纤口 (封闭)	20	48/48	21	48/ 8	22	22/22	480mm	22	5 /56	1132mm	23	45°/5/32L	24	22/22	25	22/22	26	45°/5/32	27	45°/5/32	28	22/22	29	22/22	30	32/32	31	45°/5/32	32	30°/7/48	进料口	31	90°/5/56	进料口	33	22/22	34	22/22	35	22/22	36	32/32	37	32/32	38	32/32	39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																	
3	22/22		4	22/22		5	22/22	6	32/32	7	48/48	真空口	7		96/96	真空口		8	48/48	8	96/96	9	12/12L		364mm	9		45°/5/36L	1320mm	10	30°/7/48	11	32/32	12	32/32	13	32/32	14	32/32	15	32/32	16	32/32	17	45°/5/32	18	45°/5/32		19	48/48		玻纤口 (封闭)	19	90°/5/56	玻纤口 (封闭)	20	48/48		21	48/ 8		22	22/22	480mm	22	5 /56	1132mm	23	45°/5/32L	24	22/22	25	22/22	26	45°/5/32	27	45°/5/32	28	22/22	29	22/22		30	32/32		31	45°/5/32	32	30°/7/48	进料口	31	90°/5/56	进料口	33	22/22	34	22/22	35	22/22	36	32/32	37	32/32	38	32/32	39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56									
4	22/22		5	22/22		6	32/32	7	48/48	真空口	7		96/96	真空口	8		48/48	8	96/96	9	12/12L	364mm	9			45°/5/36L		1320mm		10	30°/7/48	11	32/32	12	32/32	13	32/32	14	32/32	15	32/32	16	32/32	17	45°/5/32	18	45°/5/32		19	48/48			玻纤口 (封闭)	19		90°/5/56	玻纤口 (封闭)		20	48/48		21	48/ 8		22	22/22		480mm	22	5 /56	1132mm	23	45°/5/32L	24	22/22	25	22/22	26	45°/5/32	27	45°/5/32		28	22/22		29	22/22	30	32/32		31	45°/5/32		32	30°/7/48	进料口	31	90°/5/56	进料口	33	22/22	34	22/22	35	22/22	36	32/32	37	32/32	38	32/32	39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56			
5	22/22		6	32/32		7	48/48	真空口	7		96/96	真空口	8		48/48	8	96/96	9	12/12L	364mm	9		45°/5/36L			1320mm				10	30°/7/48	11	32/32	12	32/32	13	32/32	14	32/32	15	32/32	16	32/32	17	45°/5/32	18	45°/5/32	19	48/48	玻纤口 (封闭)	19			90°/5/56		玻纤口 (封闭)			20	48/48		21	48/ 8		22	22/22			480mm	22		5 /56	1132mm	23	45°/5/32L	24	22/22	25	22/22	26	45°/5/32		27	45°/5/32		28	22/22	29	22/22		30	32/32		31	45°/5/32		32	30°/7/48		进料口	31	90°/5/56	进料口	33	22/22	34	22/22	35	22/22	36	32/32	37	32/32	38	32/32	39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48
6	32/32		7	48/48		真空口	7		96/96	真空口	8		48/48	8	96/96	9	12/12L	364mm	9		45°/5/36L		1320mm							10	30°/7/48	11	32/32	12	32/32	13	32/32	14	32/32	15	32/32	16	32/32	17	45°/5/32	18	45°/5/32	19	48/48		玻纤口 (封闭)	19		90°/5/56	玻纤口 (封闭)				20	48/48		21	48/ 8		22	22/22				480mm		22		5 /56	1132mm	23	45°/5/32L	24	22/22	25	22/22		26	45°/5/32		27	45°/5/32	28	22/22		29	22/22		30	32/32		31	45°/5/32			32	30°/7/48		进料口	31	90°/5/56	进料口	33	22/22	34	22/22	35	22/22	36	32/32	37	32/32	38	32/32	39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96	
7	48/48	真空口	7	96/96	真空口																																																																																																																																																																						
8	48/48		8	96/96																																																																																																																																																																							
9	12/12L	364mm	9	45°/5/36L	1320mm																																																																																																																																																																						
10	30°/7/48		11	32/32		12	32/32	13	32/32	14	32/32	15	32/32	16	32/32	17	45°/5/32		18		45°/5/32									19	48/48	玻纤口 (封闭)	19	90°/5/56	玻纤口 (封闭)	20	48/48	21	48/ 8	22	22/22	480mm	22	5 /56	1132mm	23	45°/5/32L	24	22/22	25	22/22	26	45°/5/32	27	45°/5/32	28	22/22		29	22/22		30	32/32		31	45°/5/32						32		30°/7/48		进料口	31	90°/5/56	进料口	33	22/22	34	22/22	35	22/22	36	32/32	37	32/32		38	32/32		39	48/48		40	48/48								40		56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56															
11	32/32		12	32/32		13	32/32	14	32/32	15	32/32	16	32/32	17	45°/5/32	18	45°/5/32		19		48/48									玻纤口 (封闭)	19		90°/5/56	玻纤口 (封闭)		20	48/48	21	48/ 8	22	22/22		480mm	22		5 /56	1132mm	23	45°/5/32L	24	22/22	25	22/22	26	45°/5/32	27	45°/5/32		28	22/22		29	22/22		30	32/32						31		45°/5/32			32	30°/7/48		进料口	31	90°/5/56	进料口	33	22/22	34	22/22	35	22/22	36	32/32	37	32/32	38	32/32		39	48/48			40	48/48							40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56													
12	32/32		13	32/32		14	32/32	15	32/32	16	32/32	17	45°/5/32	18	45°/5/32	19	48/48		玻纤口 (封闭)		19			90°/5/56			玻纤口 (封闭)				20		48/48			21	48/ 8	22	22/22	480mm	22			5 /56		1132mm		23	45°/5/32L	24	22/22	25	22/22	26	45°/5/32	27	45°/5/32	28	22/22	29	22/22	30	32/32		31	45°/5/32						32		30°/7/48			进料口	31			90°/5/56	进料口		33	22/22	34	22/22	35	22/22	36	32/32	37	32/32	38	32/32	39	48/48	40	48/48							40		56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56															
13	32/32		14	32/32		15	32/32	16	32/32	17	45°/5/32	18	45°/5/32	19	48/48	玻纤口 (封闭)	19				90°/5/56			玻纤口 (封闭)	20				48/48		21	48/ 8	22		22/22	480mm	22	5 /56	1132mm		23			45°/5/32L				24	22/22	25	22/22	26	45°/5/32	27	45°/5/32	28	22/22	29	22/22	30	32/32	31	45°/5/32	32	30°/7/48	进料口	31					90°/5/56		进料口				33			22/22			34	22/22	35	22/22	36	32/32	37	32/32	38	32/32	39	48/48	40	48/48				40	56/56							41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																			
14	32/32		15	32/32		16	32/32	17	45°/5/32	18	45°/5/32	19	48/48	玻纤口 (封闭)	19		90°/5/56				玻纤口 (封闭)	20			48/48			21	48/ 8	22	22/22	480mm	22	5 /56	1132mm		23	45°/5/32L			24			22/22				25	22/22	26	45°/5/32	27	45°/5/32	28	22/22	29	22/22	30	32/32	31	45°/5/32	32	30°/7/48	进料口	31		90°/5/56	进料口			33	22/22						34			22/22			35	22/22	36	32/32	37	32/32	38	32/32	39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																							
15	32/32		16	32/32		17	45°/5/32	18	45°/5/32	19	48/48	玻纤口 (封闭)	19		90°/5/56		玻纤口 (封闭)		20	48/48		21			48/ 8	22	22/22	480mm	22	5 /56	1132mm		23	45°/5/32L			24	22/22			25			22/22				26	45°/5/32	27	45°/5/32	28	22/22	29	22/22	30	32/32	31	45°/5/32	32	30°/7/48	进料口	31		90°/5/56		进料口		33		22/22	34	22/22					35			22/22			36	32/32	37	32/32	38	32/32	39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																									
16	32/32		17	45°/5/32		18	45°/5/32	19	48/48	玻纤口 (封闭)	19		90°/5/56		玻纤口 (封闭)	20		48/48	21	48/ 8		22	22/22	480mm	22	5 /56	1132mm		23	45°/5/32L			24	22/22			25	22/22			26			45°/5/32				27	45°/5/32	28	22/22	29	22/22	30	32/32	31	45°/5/32	32	30°/7/48	进料口	31		90°/5/56		进料口				33	22/22	34	22/22	35		22/22			36			32/32			37	32/32	38	32/32	39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																											
17	45°/5/32		18	45°/5/32		19	48/48	玻纤口 (封闭)	19		90°/5/56		玻纤口 (封闭)	20		48/48		21	48/ 8	22	22/22	480mm	22		5 /56	1132mm			23	45°/5/32L			24	22/22			25	22/22			26			45°/5/32				27	45°/5/32	28	22/22	29	22/22	30	32/32	31	45°/5/32	32	30°/7/48		进料口		31						90°/5/56	进料口	33	22/22	34		22/22			35			22/22			36	32/32	37	32/32	38	32/32	39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																									
18	45°/5/32		19	48/48		玻纤口 (封闭)	19		90°/5/56		玻纤口 (封闭)	20		48/48		21	48/ 8	22	22/22	480mm	22		5 /56		1132mm				23	45°/5/32L			24	22/22			25	22/22			26			45°/5/32				27	45°/5/32	28	22/22	29	22/22	30	32/32	31	45°/5/32	32	30°/7/48				进料口						31		90°/5/56	进料口	33		22/22	34		22/22	35		22/22			36	32/32	37	32/32	38	32/32	39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																									
19	48/48	玻纤口 (封闭)	19	90°/5/56	玻纤口 (封闭)																																																																																																																																																																						
20	48/48		21	48/ 8			22	22/22	480mm	22		5 /56	1132mm	23	45°/5/32L	24	22/22	25	22/22		26		45°/5/32						27	45°/5/32			28	22/22			29	22/22			30	32/32		31	45°/5/32			32	30°/7/48	进料口	31	90°/5/56	进料口	33	22/22	34	22/22	35	22/22										36		32/32		37		32/32	38	32/32	39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																					
21	48/ 8		22	22/22		480mm	22	5 /56		1132mm	23	45°/5/32L		24	22/22	25	22/22	26	45°/5/32		27		45°/5/32						28	22/22			29	22/22			30	32/32			31	45°/5/32	32	30°/7/48	进料口		31	90°/5/56	进料口		33	22/22		34	22/22	35	22/22	36	32/32							37			32/32		38		32/32	39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																									
22	22/22	480mm	22	5 /56	1132mm																																																																																																																																																																						
23	45°/5/32L		24	22/22			25	22/22			26	45°/5/32		27	45°/5/32	28	22/22	29	22/22		30		32/32						31	45°/5/32			32	30°/7/48		进料口	31	90°/5/56	进料口	33	22/22	34	22/22	35		22/22	36	32/32			37	32/32		38	32/32	39	48/48	40	48/48								40	56/56							41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																																					
24	22/22		25	22/22			26	45°/5/32			27	45°/5/32		28	22/22	29	22/22	30	32/32		31		45°/5/32						32	30°/7/48		进料口	31	90°/5/56	进料口		33	22/22		34	22/22	35	22/22	36		32/32	37	32/32			38	32/32		39	48/48	40	48/48					40		56/56					41		72/72						42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																																									
25	22/22		26	45°/5/32			27	45°/5/32			28	22/22		29	22/22	30	32/32	31	45°/5/32		32		30°/7/48					进料口	31	90°/5/56	进料口		33	22/22			34	22/22		35	22/22	36	32/32	37		32/32	38	32/32			39	48/48		40	48/48				40	56/56						41	72/72						42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																																													
26	45°/5/32		27	45°/5/32			28	22/22			29	22/22		30	32/32	31	45°/5/32	32	30°/7/48		进料口		31	90°/5/56			进料口		33	22/22			34	22/22			35	22/22		36	32/32	37	32/32	38		32/32	39	48/48			40	48/48					40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																																																	
27	45°/5/32		28	22/22			29	22/22			30	32/32		31	45°/5/32	32	30°/7/48	进料口	31			90°/5/56	进料口	33		22/22			34	22/22			35	22/22			36	32/32		37	32/32	38	32/32	39		48/48	40	48/48							40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																																																			
28	22/22		29	22/22			30	32/32			31	45°/5/32		32	30°/7/48	进料口	31		90°/5/56	进料口		33		22/22	34	22/22			35	22/22			36	32/32			37	32/32		38	32/32	39	48/48	40		48/48					40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																																																							
29	22/22		30	32/32			31	45°/5/32			32	30°/7/48		进料口	31		90°/5/56		进料口			33		22/22	34	22/22			35	22/22			36	32/32			37	32/32		38	32/32	39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																																																									
30	32/32		31	45°/5/32			32	30°/7/48	进料口		31	90°/5/56	进料口		33		22/22					34		22/22	35	22/22			36	32/32			37	32/32			38	32/32		39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																																																											
31	45°/5/32		32	30°/7/48		进料口	31	90°/5/56		进料口	33	22/22			34		22/22					35		22/22	36	32/32			37	32/32			38	32/32		39	48/48	40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																																																															
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34	22/22		35	22/22			36	32/32			37	32/32			38		32/32				39	48/48		40	48/48				40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																																																																													
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36	32/32		37	32/32			38	32/32			39	48/48			40	48/48					40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																																																																																					
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38	32/32		39	48/48			40	48/48					40	56/56					41	72/72					42	72/72					43	72/72					44	96/96					45	96/96					46	96/96					47	96/96					48	56/56																																																																																																													
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注 :75 机螺杆组合剪切比较强,且长径比高,可以根据具体加工情况调整上述螺杆组合。