

- PVOH Standard -

	Grade	Viscosity <sup>1)</sup> [mPa x s]	Hydrolysis [mol.-%]	Ash Max <sup>2)</sup> [%]	Volatile Max <sup>3)</sup> [%]
Partially Hydrolysed	PVA 203	3.2 - 3.6	87.0 - 89.0	0.4	5.0
	PVA 205	4.6 - 5.4	86.5 - 89.0	0.4	5.0
	PVA 205MB <sup>4)</sup>	4.6 - 5.4	86.5 - 89.0	0.4	5.0
	PVA 205S <sup>4)</sup>	4.6 - 5.4	86.5 - 89.0	0.4	5.0
	PVA 217	20.5 - 24.5	87.0 - 89.0	0.4	5.0
	PVA 217SB <sup>4)</sup>	20.5 - 24.5	87.0 - 89.0	0.4	5.0
	PVA 217S <sup>4)</sup>	20.5 - 24.5	87.0 - 89.0	0.4	5.0
	PVA 220	27.0 - 33.0	87.0 - 89.0	0.4	5.0
	PVA 220SB <sup>4)</sup>	27.0 - 33.0	87.0 - 89.0	0.4	5.0
	PVA 220S <sup>4)</sup>	27.0 - 33.0	87.0 - 89.0	0.4	5.0
	PVA 224	40.0 - 48.0	87.0 - 89.0	0.4	5.0
	PVA 224SB <sup>4)</sup>	40.0 - 48.0	87.0 - 89.0	0.4	5.0
	PVA 224S <sup>4)</sup>	40.0 - 48.0	87.0 - 89.0	0.4	5.0
Medium Hydrolysed	PVA CST	24.0 - 30.0	95.5 - 96.5	0.4	5.0
	PVA 613	14.5 - 18.5	92.5 - 94.5	0.4	5.0
Fully Hydrolysed	PVA 102	2.7 - 2.8	98.0 - 99.0	0.8	5.0
	PVA 103	3.2 - 3.8	98.0 - 99.0	0.7	5.0
	PVA 105	5.2 - 6.0	98.0 - 99.0	0.7	5.0
	PVA 105K <sup>4)</sup>	5.2 - 6.0	98.0 - 99.0	0.7	5.0
	PVA 110	10.2 - 11.8	98.0 - 99.0	0.7	5.0
	PVA 117	25.0 - 31.0	98.0 - 99.0	0.4	5.0
	PVA 117K <sup>4)</sup>	25.0 - 31.0	98.0 - 99.0	0.4	5.0
	PVA 117S <sup>4)</sup>	25.0 - 31.0	98.0 - 99.0	0.4	5.0
	PVA 124	54.0 - 66.0	98.0 - 99.0	0.4	5.0

1) of a 4 % aqueous solution at 20 °C, determined by Brookfield viscometer (JIS K6726)

2) calculated as Na<sub>2</sub>O

3) after 3 hours drying at 105 °C (JIS K6726). Methanol content: less than 3 %.

4) K, MB, SB: anti-foaming/defoaming grade, S: finer powder grade

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## - PVOH Specialties-

	Grade	Viscosity <sup>1)</sup> [mPa × s]	Hydrolysis [mol.-%]	Ash Max <sup>2)</sup> [%]	Volatile Max <sup>3)</sup> [%]
High MW	PVA 236	90 - 110	87.0 - 89.0	0.4	5.0
Low Hydrolyzed	PVA 420H	29.0 - 35.0	79.0 - 81.0	0.4	5.0
	PVA 420	37.0 - 45.0	79.0 - 81.0	0.4	5.0
	PVA 424H	45.0 - 51.0	78.5 - 80.5	0.2	5.0
	PVA 403	2.8 - 3.3	78.5 - 81.5	0.4	5.0
	PVA 405	4.5 - 5.2	80.0 - 83.0	0.4	5.0
	PVA 505	4.2 - 5.0	72.5 - 74.5	0.4	5.0
Water	PVA LM-20	3.0 - 4.0 <sup>4)</sup>	38.0 - 42.0	n.a.	5.0
Dispersible	PVA LM-10HD	4.5 - 5.7 <sup>4)</sup>	38.0 - 42.0	n.a.	5.0

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2) calculated as Na<sub>2</sub>O

3) after 3 hours drying at 105 °C (JIS K6726). Methanol content: less than 3 %.

4) solvent; water / methanol = 1/1

Carboxylic acid	KL-118	29.0 - 34.0	95.0 - 99.0	n.a.	n.a.
	KL-318	20.0 - 30.0	85.0 - 90.0	n.a.	5.0
	KL-506	5.2 - 6.2	74.0 - 80.0	n.a.	5.0
	OTP-5	6.0 - 7.0	85.0 - 90.0	n.a.	5.0
	SD-1000	2.3 - 3.4	83.0 - 88.0	n.a.	5.0
Cationic group	CM-318	17.0 - 27.0	86.0 - 91.0	n.a.	n.a.
	C-506	4.0 - 6.0	74.0 - 80.0	n.a.	n.a.
Silanol	R- 1130	20.0 - 30.0	98.0 - 99.0	n.a.	5.0
	R- 2105	4.5 - 6.0	98.0 - 99.0	n.a.	n.a.

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## EXCEVAL™

	Grade	Viscosity <sup>1)</sup> [mPa × s]	Hydrolysis [mol.-%]	Ash Max <sup>2)</sup> [%]	Volatile Max <sup>3)</sup> [%]
Super Hydrolyzed	HR-3010	12.0 - 16.0	99.0 - 99.4	0.4	5.0
Fully Hydrolyzed	RS-2117	23.0 - 30.0	97.5 - 99.0	0.4	5.0
	AQ-4104	3.5 - 4.5	98.0 - 99.0	0.4	5.0
Medium Hydrolyzed	RS-1717	23.0 - 30.0	92.0 - 94.0	0.4	5.0
	RS-2817SB	23.0 - 30.0	95.5 - 97.5	0.4	5.0

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2) calculated as Na<sub>2</sub>O

3) after 3 hours drying at 105 °C (JIS K6726). Methanol content: less than 3 %.

## Thermoplastic PVOH;

	Grade	Melt Flow Rate 2.16 kg [g/10min.]	MP [ °C ]	Tg [ °C ]	Solubility
Mowiflex	TC 232	< 1 (39; 21.6kg)	190	178	34 Room temperature
CP-polymer	CP - 1220 T10	8 - 12	190	170	40 Room temperature
	CP - 1210 T30	1.5 - 3.5	190	170	50 Room temperature
	CP - 4104 MI	70 - 90	230	210	55 Hot water

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