



# ANWIN ENTERPRISES (TAIWAN) CO., LTD.

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## WINPETRO - PETROLEUM RESIN

Petroleum resin (Hydrocarbon Resin) is thermoplastic resin obtained from polymerizing unsaturated aliphatic (C5) or aromatic (C9) olefins and diolefins derived from the process of thermal cracking of naphtha. It isn't a high polymer but a low polymer with the molecular weight between 300-3000. It has the characters of low acid value, easy mutual solubility, resistant to water, resistant to ethanol and chemicals. It also has the chemical stabilizing property to acid and alkaline, viscosity adjusting and thermal stabilizing. The petroleum resins are not used independently in general, but have to be used together with other kinds of resins as promoters, adjusting agents and modifiers.

	Application	Grade	Softening Point (°C)	Colour Gardner (50%Toluene)	Specific Gravity (25°C)	Bromine Value (Br g/100g)	Acid Value (KOH mg/g)	Ash Content (%)
<b>C5 Petroleum Resin</b>	Adhesives	Winpetro C5--A100--4	95~105	4 max	0.96~1.05	100 max	0.5 max	0.1 max
		Winpetro C5--A100--5	95~105	5 max	0.96~1.05	100 max	0.5 max	0.1 max
		Winpetro C5--A100--6	95~105	6 max	0.96~1.05	100 max	0.5 max	0.1 max
		Winpetro C5--A100--7	95~105	7 max	0.96~1.05	100 max	0.5 max	0.1 max
	Road Marking	Winpetro C5--M100--4	95~105	4 max	0.96~1.05	100 max	1.5 max	0.1 max
		Winpetro C5--M100--5	95~105	5 max	0.96~1.05	100 max	1.5 max	0.1 max
		Winpetro C5--M100--6	95~105	6 max	0.96~1.05	100 max	1.5 max	0.1 max
		Winpetro C5--M100--7	95~105	7 max	0.96~1.05	100 max	1.5 max	0.1 max
	Rubber	Winpetro C5--R100--4	95~105	4 max	0.96~1.05	100 max	0.5 max	0.1 max
		Winpetro C5--R100--5	95~105	5 max	0.96~1.05	100 max	0.5 max	0.1 max
		Winpetro C5--R100--6	95~105	6 max	0.96~1.05	100 max	0.5 max	0.1 max
		Winpetro C5--R100--7	95~105	7 max	0.96~1.05	100 max	0.5 max	0.1 max

	Grade	Softening Point (°C)	Colour Gardner (50% Toluene)	Specific Gravity (25°C)	Bromine Value (Br g/100g)	Acid Value (KOH mg/g)	Ash Content (%)	Application
<b>C9 Petroleum Resin</b>	Winpetro C9--90--8	90 (80~90)	8 max	1.00~1.10	100 max	0.5 max	0.1 max	Rubber Additive
	Winpetro C9--90--9	90 (80~90)	9 max	1.00~1.10	100 max	0.5 max	0.1 max	
	Winpetro C9--90--10	90 (80~90)	10 max	1.00~1.10	100 max	0.5 max	0.1 max	
	Winpetro C9--90--11	90 (80~90)	11 max	1.00~1.10	100 max	0.5 max	0.1 max	
	Winpetro C9--90--12	90 (80~90)	12 max	1.00~1.10	100 max	0.5 max	0.1 max	
	Winpetro C9--90--13	90 (80~90)	13 max	1.00~1.10	100 max	0.5 max	0.1 max	
	Winpetro C9--90--14	90 (80~90)	14 max	1.00~1.10	100 max	0.5 max	0.1 max	
	Winpetro C9--90--15	90 (80~90)	15 max	1.00~1.10	100 max	0.5 max	0.1 max	
	Winpetro C9--90--16	90 (80~90)	16 max	1.00~1.10	100 max	0.5 max	0.1 max	
	Winpetro C9--90--17	90 (80~90)	17 max	1.00~1.10	100 max	0.5 max	0.1 max	
	Winpetro C9--90--18	90 (80~90)	18 max	1.00~1.10	100 max	0.5 max	0.1 max	
	Winpetro C9--100--9	100 (90~100)	9 max	1.00~1.11	100 max	0.5 max	0.1 max	Hot Melt Adhesive Pressure Sensitive Adhesive Contact Adhesive Rubber Additive
	Winpetro C9--100--10	100 (90~100)	10 max	1.00~1.11	100 max	0.5 max	0.1 max	
	Winpetro C9--100--11	100 (90~100)	11 max	1.00~1.11	100 max	0.5 max	0.1 max	
	Winpetro C9--100--12	100 (90~100)	12 max	1.00~1.11	100 max	0.5 max	0.1 max	
	Winpetro C9--100--13	100 (90~100)	13 max	1.00~1.11	100 max	0.5 max	0.1 max	
	Winpetro C9--100--14	100 (90~100)	14 max	1.00~1.11	100 max	0.5 max	0.1 max	
	Winpetro C9--100--15	100 (90~100)	15 max	1.00~1.11	100 max	0.5 max	0.1 max	
Winpetro C9--100--16	100 (90~100)	16 max	1.00~1.11	100 max	0.5 max	0.1 max		
Winpetro C9--100--17	100 (90~100)	17 max	1.00~1.11	100 max	0.5 max	0.1 max		
Winpetro C9--100--18	100 (90~100)	18 max	1.00~1.11	100 max	0.5 max	0.1 max		

	Grade	Softening Point(°C)	Colour Gardner (50% Toluene)	Specific Gravity (25°C)	Bromine Value (Br g/100g)	Acid Value (KOH mg/g)	Ash Content(%)	Application	
<b>C9 Petroleum Resin</b>	Winpetro C9--110--9	110 (100~110)	9 max	1.00~1.11	100 max	0.5 max	0.1 max	Hot Melt Adhesive	
	Winpetro C9--110--10	110 (100~110)	10 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C9--110--11	110 (100~110)	11 max	1.00~1.11	100 max	0.5 max	0.1 max		Pressure Sensitive Adhesive
	Winpetro C9--110--12	110 (100~110)	12 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C9--110--13	110 (100~110)	13 max	1.00~1.11	100 max	0.5 max	0.1 max		Contact Adhesive
	Winpetro C9--110--14	110 (100~110)	14 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C9--110--15	110 (100~110)	15 max	1.00~1.11	100 max	0.5 max	0.1 max		Rubber Additive
	Winpetro C9--110--16	110 (100~110)	16 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C9--110--17	110 (100~110)	17 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C9--110--18	110 (100~110)	18 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C9--120--6	120 (110~120)	6 max	1.00~1.12	100 max	0.5 max	0.1 max	Hot Melt Adhesive	
	Winpetro C9--120--7	120 (110~120)	7 max	1.00~1.12	100 max	0.5 max	0.1 max		
	Winpetro C9--120--8	120 (110~120)	8 max	1.00~1.12	100 max	0.5 max	0.1 max		Pressure Sensitive Adhesive
	Winpetro C9--120--9	120 (110~120)	9 max	1.00~1.12	100 max	0.5 max	0.1 max		
	Winpetro C9--120--10	120 (110~120)	10 max	1.00~1.12	100 max	0.5 max	0.1 max		Contact Adhesive
	Winpetro C9--120--11	120 (110~120)	11 max	1.00~1.12	100 max	0.5 max	0.1 max		
	Winpetro C9--120--12	120 (110~120)	12 max	1.00~1.12	100 max	0.5 max	0.1 max		Rubber Additive
	Winpetro C9--120--13	120 (110~120)	13 max	1.00~1.12	100 max	0.5 max	0.1 max		
	Winpetro C9--120--14	120 (110~120)	14 max	1.00~1.12	100 max	0.5 max	0.1 max		Paint
	Winpetro C9--120--15	120 (110~120)	15 max	1.00~1.12	100 max	0.5 max	0.1 max		
Winpetro C9--120--16	120 (110~120)	16 max	1.00~1.12	100 max	0.5 max	0.1 max	Printing Ink		
Winpetro C9--120--17	120 (110~120)	17 max	1.00~1.12	100 max	0.5 max	0.1 max			
Winpetro C9--120--18	120 (110~120)	18 max	1.00~1.12	100 max	0.5 max	0.1 max			

	Grade	Softening Point (°C)	Colour Gardner (50% Toluene)	Specific Gravity (25°C)	Bromine Value (Br g/100g)	Acid Value (KOH mg/g)	Ash Content (%)	Application
<b>C9 Petroleum Resin</b>	Winpetro C9--130--10	130 (120~130)	10 max	1.00~1.13	100 max	0.5 max	0.1 max	Paint Printing Ink
	Winpetro C9--130--11	130 (120~130)	11 max	1.00~1.13	100 max	0.5 max	0.1 max	
	Winpetro C9--130--12	130 (120~130)	12 max	1.00~1.13	100 max	0.5 max	0.1 max	
	Winpetro C9--130--13	130 (120~130)	13 max	1.00~1.13	100 max	0.5 max	0.1 max	
	Winpetro C9--130--14	130 (120~130)	14 max	1.00~1.13	100 max	0.5 max	0.1 max	
	Winpetro C9--130--15	130 (120~130)	15 max	1.00~1.13	100 max	0.5 max	0.1 max	
	Winpetro C9--130--16	130 (120~130)	16 max	1.00~1.13	100 max	0.5 max	0.1 max	
	Winpetro C9--130--17	130 (120~130)	17 max	1.00~1.13	100 max	0.5 max	0.1 max	
	Winpetro C9--130--18	130 (120~130)	18 max	1.00~1.13	100 max	0.5 max	0.1 max	
	Winpetro C9--140--11	140 (130~140)	11 max	1.00~1.14	100 max	0.5 max	0.1 max	Paint Printing Ink
	Winpetro C9--140--12	140 (130~140)	12 max	1.00~1.14	100 max	0.5 max	0.1 max	
	Winpetro C9--140--13	140 (130~140)	13 max	1.00~1.14	100 max	0.5 max	0.1 max	
	Winpetro C9--140--14	140 (130~140)	14 max	1.00~1.14	100 max	0.5 max	0.1 max	
	Winpetro C9--140--15	140 (130~140)	15 max	1.00~1.14	100 max	0.5 max	0.1 max	
	Winpetro C9--140--16	140 (130~140)	16 max	1.00~1.14	100 max	0.5 max	0.1 max	
	Winpetro C9--140--17	140 (130~140)	17 max	1.00~1.14	100 max	0.5 max	0.1 max	
	Winpetro C9--150--11	150 (140~150)	11 max	1.00~1.14	100 max	0.5 max	0.1 max	Paint Printing Ink Asphalt/ Floor Tile

	Grade	Softening Point (°C)	Colour Gardner (50% Toluene)	Specific Gravity (25°C)	Bromine Value (Br g/100g)	Acid Value (KOH mg/g)	Ash Content (%)	Application	
<b>C5/C9 Copolymerize Petroleum Resin</b>	Winpetro C5/C9--90--5	90 (80~90)	5 max	1.00~1.11	100 max	0.5 max	0.1 max	Hot Melt Adhesive	
	Winpetro C5/C9--90--6	90 (80~90)	6 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--90--8	90 (80~90)	8 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--90--9	90 (80~90)	9 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--90--10	90 (80~90)	10 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--90--11	90 (80~90)	11 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--100--5	100 (90~100)	5 max	1.00~1.11	100 max	0.5 max	0.1 max		Pressure Sensitive Adhesive
	Winpetro C5/C9--100--6	100 (90~100)	6 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--100--8	100 (90~100)	8 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--100--9	100 (90~100)	9 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--100--10	100 (90~100)	10 max	1.00~1.11	100 max	0.5 max	0.1 max		Contact Adhesive
	Winpetro C5/C9--100--11	100 (90~100)	11 max	1.00~1.11	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--110--5	110 (100~110)	5 max	1.00~1.12	100 max	0.5 max	0.1 max	Rubber Additive	
	Winpetro C5/C9--110--6	110 (100~110)	6 max	1.00~1.12	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--110--8	110 (100~110)	8 max	1.00~1.12	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--110--9	110 (100~110)	9 max	1.00~1.12	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--110--10	110 (100~110)	10 max	1.00~1.12	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--110--11	110 (100~110)	11 max	1.00~1.12	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--120--5	120 (110~120)	5 max	1.00~1.12	100 max	0.5 max	0.1 max		
	Winpetro C5/C9--120--6	120 (110~120)	6 max	1.00~1.12	100 max	0.5 max	0.1 max		
Winpetro C5/C9--120--8	120 (110~120)	8 max	1.00~1.12	100 max	0.5 max	0.1 max			
Winpetro C5/C9--120--9	120 (110~120)	9 max	1.00~1.12	100 max	0.5 max	0.1 max			
Winpetro C5/C9--120--10	120 (110~120)	10 max	1.00~1.12	100 max	0.5 max	0.1 max			
Winpetro C5/C9--120--11	120 (110~120)	11 max	1.00~1.12	100 max	0.5 max	0.1 max			

	Grade	Softening Point (°C)	Colour Gardner (50% Toluene)	Specific Gravity (25°C)	Bromine Value (Br g/100g)	Acid Value (KOH mg/g)	Ash Content (%)	Application
<b>C5/C9 Copolymerize Petroleum Resin</b>	Winpetro C5/C9--130--5	130 (120~130)	5 max	1.00~1.12	100 max	0.5 max	0.1 max	Hot Melt Adhesive
	Winpetro C5/C9--130--6	130 (120~130)	6 max	1.00~1.12	100 max	0.5 max	0.1 max	
	Winpetro C5/C9--130--8	130 (120~130)	8 max	1.00~1.12	100 max	0.5 max	0.1 max	Pressure Sensitive Adhesive
	Winpetro C5/C9--130--9	130 (120~130)	9 max	1.00~1.12	100 max	0.5 max	0.1 max	
	Winpetro C5/C9--130--10	130 (120~130)	10 max	1.00~1.12	100 max	0.5 max	0.1 max	Contact Adhesive
	Winpetro C5/C9--130--11	130 (120~130)	11 max	1.00~1.12	100 max	0.5 max	0.1 max	Rubber Additive

	Grade	Softening Point (°C)	Colour Gardner (50% Toluene)	Specific Gravity (25°C)	Bromine Value (Br g/100g)	Acid Value (KOH mg/g)	Ash Content (%)	Application
<b>DCPD Petroleum Resin</b>	Winpetro DCPD-001	95~105	6 max	1.06~1.09	180 max	1.0 max	0.03 max	High-grade Rubber   Footwear Leather   Racing-car Tyre   Rubber Industry
	Winpetro DCPD-002	95~125	6 max	1.06~1.09	50 max	1.0 max	0.03 max	Marine Paint   Polyester Paint   Nitrate Paint   Adhesives   Alkyd Paint   Electrical-related Fields   Epoxy Resin
	Winpetro DCPD-003	150~160	6 max	1.06~1.09	180 max	1.0 max	0.03 max	Printing Ink