

INNOVATIVE MATERIALS

MKC CLEAR RUBBER SERISE

INNOVATIVE POLYMERS FOR THE SPORTING GOODS INDUSTRY

- *Innovative Performance Rubber Compounds*
- *Performance Cushioning Foams*
- *Creative and Unique Color & Application*
- *Global Technical Support,
including all Major Production Countries*



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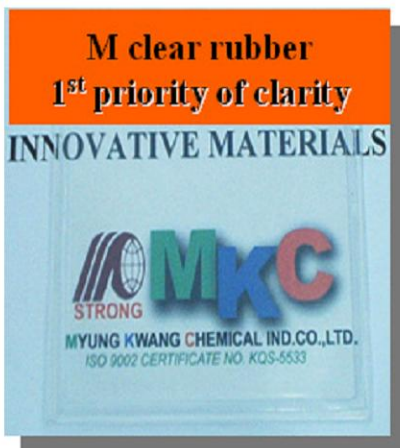
I . **BASE CLEAR RUBBER**

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1. **Clear(Crystal Clear) Rubber**
(Transparent priority 1st)
2. **SM Clear Rubber**
(Transparent priority 2nd)
3. **CM Clear Rubber**
(Transparent priority 3rd)



Clear(Crystal Clear) Rubber

1. BENEFITS ;

- 1) [Transparent priority 1st](#)
- 2) High abrasion
- 3) Superior bonding with shoe's components
- 4) [No-buffing](#) system for clear rubber to see better bonding.
- 5) [Vacuum packing be](#) able to keep original physical properties while it's just produced for 12 months.
It will be able to prevent yellowishing caused by whole kinds of outer effects.
- 6) Any color

2. TYPICAL PROPERTIES

DIVISION		REMARKS
Main Polymer	Synthetic Rubber	
Appearance	Transparent Solid Sheet	
Specific Gravity (g/cc)	1.02 ± 0.05	
Moisture Contents (%)	Less than 0.1	Temp.100℃ × 3mins
Ash Contents (%)	10 ± 1	DIN 55 921
Standard Storage Stability	6 months	
Vacuum Packing Storage	12 months	

3. PHYSICAL PROPERTIES

DIVISION		Vacuum packed for 6 months	REMARKS
Hardness (Shore's A)	65 ~ 70	68	◇ Press Time 150℃×6 ~ 7mins
300% Md. (Kgf/cm2)	70	70	
Tear Strength(Kgf/cm)	35 ~ 40	39	
Tensile Strength(Kgf/cm2)	140	143	
Elongation (%)	400 ~ 600	560	
Specific Gravity (g/cc)	1.06 ~ 1.08	1.07	
Abrasion Loss (Akron, cc)	0.15 ~ 0.25	0.16	

SM Clear Rubber

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1. BENEFITS ;

- 1) [Transparent priority 2nd](#)
- 2) High abrasion
- 3) Superior bonding with shoe's components
- 4) [No-buffing](#) system for clear rubber to see better bonding.
- 5) [Vacuum packing](#) be able to keep original physical properties while it's just produced for 12 months.
It will be able to prevent yellowishing caused by whole kinds of outer effects.
- 6) Any color

2. TYPICAL PROPERTIES

DIVISION		REMARKS
Main Polymer	Synthetic Rubber	
Appearance	Transparent Solid Sheet	
Specific Gravity (g/cc)	1.02 ± 0.05	
Moisture Contents (%)	Less than 0.1	Temp.100℃ × 3mins
Ash Contents (%)	10 ± 1	DIN 55 921
Standard Storage Stability	6 months	
Vacuum Packing Storage	12 months	

3. PHYSICAL PROPERTIES

DIVISION		Vacuum packed for 6 months	REMARKS
Hardness (Shore's A)	65 ~ 70	68	◇ Press Time 150℃×6 ~ 7mins
300% Md. (Kgf/cm ²)	60	65	
Tear Strength(Kgf/cm)	35 ~ 40	38	
Tensile Strength(Kgf/cm ²)	135	140	
Elongation (%)	400 ~ 600	550	
Specific Gravity (g/cc)	1.07 ~ 1.09	1.07	
Abrasion Loss (Akron, cc)	0.15 ~ 0.25	0.18	

CM Clear Rubber

1. BENEFITS ;

- 1) [Transparent priority 3rd](#)
- 2) High abrasion
- 3) Superior bonding with shoe's components
- 4) [No-buffing](#) system for clear rubber to see better bonding.
- 5) [Vacuum packing be](#) able to keep original physical properties while it's just produced for 12 months.
It will be able to prevent yellowishing caused by whole kinds of outer effects.
- 6) Any color

2. TYPICAL PROPERTIES

DIVISION		REMARKS
Main Polymer	Synthetic Rubber	
Appearance	Transparent Solid Sheet	
Specific Gravity (g/cc)	1.02 ± 0.05	
Moisture Contents (%)	Less than 0.1	Temp.100°C × 3mins
Ash Contents (%)	10 ± 1	DIN 55 921
Standard Storage Stability	6 months	
Vacuum Packing Storage	12 months	

3. PHYSICAL PROPERTIES

DIVISION		Vacuum packed for 6 months	REMARKS
Hardness (Shore's A)	65 ~ 70	67	◇ Press Time 150°C×6 ~ 7mins
300% Md. (Kgf/cm2)	70	70	
Tear Strength(Kgf/cm)	35 ~ 40	37	
Tensile Strength(Kgf/cm2)	135	140	
Elongation (%)	400 ~ 600	550	
Specific Gravity (g/cc)	1.07 ~ 1.09	1.08	
Abrasion Loss (Akron, cc)	0.15 ~ 0.25	0.18	

II. MODIFIED CLEAR RUBBER

- 1 Sticky Clear Rubber**
- 2 HD Clear Rubber**
- 3 INJ Clear Rubber**
- 4 Novo Clear Rubber**

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Sticky Clear Rubber

1. BENEFITS ;

- 1) Similar transparency / physical properties like M Clear Rubber
- 2) **High grip** in wet & dry conditions
- 3) Any color

2. TYPICAL PROPERTIES

DIVISION		REMARKS
Main Polymer	Synthetic Rubber	
Appearance	Transparent Solid Sheet	
Specific Gravity (g/cc)	1.00 ± 0.05	
Moisture Contents (%)	Less than 0.1	Temp.100°C × 3mins
Ash Contents (%)	10 ± 1	DIN 55 921
Standard Storage Stability	6 months	
Vacuum Packing Storage	12 months	

MODIFIED CLEAR RUBBER

4. PHYSICAL PROPERTIES

5.

DIVISION		REMARKS
Hardness (Shore's A)	61 ~ 62	◇ Press Time 150°C×6 ~ 7mins
300% Md. (Kgf/cm ²)	57	
Tear Strength(Kgf/cm)	40	
Tensile Strength(Kgf/cm ²)	130	
Elongation (%)	560	
Specific Gravity (g/cc)	1.045	
Abrasion Loss (Akron, cc)	0.17	

4. COMPARISON

DIVISION		Natural rubber	Sticky Clear Rubber	REMARKS
Slip Test (Slip Angle)	Dry	1.02(45.5)	2.75(70)	Slip tester No. 162-SLH with glass plate
	Wet	2.05(64)	2.75(70)	

HD Clear Rubber

1. BENEFITS ;

- 1) Excellent physical properties (refer to below spec.)
- 2) [Suitable for soccer / golf shoes](#)
- 3) Any color

2. TYPICAL PROPERTIES

DIVISION		REMARKS
Main Polymer	Synthetic Rubber	
Appearance	Transparent Solid Sheet	
Specific Gravity (g/cc)	1.05 ± 0.05	
Moisture Contents (%)	Less than 0.1	Temp.100°C × 3mins
Ash Contents (%)	10 ± 1	DIN 55 921
Standard Storage Stability	6 months	
Vacuum Packing Storage	12 months	

3. PHYSICAL PROPERTIES

DIVISION		REMARKS
<u>Hardness (Shore's A)</u>	<u>87 ~ 88</u>	Press Time 150 6 ~ 7mins
300% Md. (Kgf/cm ²)	-	
Tear Strength(Kgf/cm)	60	
Tensile Strength(Kgf/cm ²)	140	
Elongation (%)	300	
Specific Gravity (g/cc)	1.092	
Abrasion Loss (Akron, cc)	0.15	

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INJ Clear Rubber

1. BENEFITS ;

- 1) High abrasion
- 2) Superior bonding with shoe's components [by using injection type](#)
- 3) [No-buffing](#) system for clear rubber to see better bonding
- 4) Any color

2. TYPICAL PROPERTIES

DIVISION		REMARKS
Main Polymer	Synthetic Rubber	
Appearance	Transparent Solid Sheet	
Specific Gravity (g/cc)	1.02 ± 0.05	
Moisture Contents (%)	Less than 0.1	Temp.100°C × 3mins
Ash Contents (%)	10 ± 1	DIN 55 921
Standard Storage Stability	6 months	
Vacuum Packing Storage	12 months	

3. PHYSICAL PROPERTIES

DIVISION		REMARKS
Hardness (Shore's A)	65 ~ 70	◇ Press Time 150°C×6 ~ 7mins
300% Md. (Kgf/cm ²)	70	
Tear Strength(Kgf/cm)	35 ~ 40	
Tensile Strength(Kgf/cm ²)	140	
Elongation (%)	400 ~ 600	
Specific Gravity (g/cc)	1.06 ~ 1.08	
Abrasion Loss (Akron, cc)	0.15 ~ 0.25	

MODIFIED CLEAR RUBBER

Novo Clear Rubber

1. BENEFITS ;

- 1) It gives more stable physical properties such as tear strength, traction, tensile strength and heat-resistance than "M-Clear Rubber".
- 2) Perfect bonding strength with normal rubber
- 3) Cost saving remarkably by reducing reject rate, easier working processes.
- 4) Applied to the foxing tape, toe-guard, calender and mold sales in hot-air vulcanizing type shoe manufacturing without bonding problems.
- 5) Any color

2. TYPICAL PROPERTIES

DIVISION		REMARKS
Main Polymer	Synthetic Rubber	
Appearance	Transparent Solid Sheet	
Specific Gravity (g/cc)	1.07 ± 0.02	
Moisture Contents (%)	Less than 0.1	Temp.100°C × 3mins
Ash Contents (%)	10 ± 1	DIN 55 921
Standard Storage Stability	6 months	
Vacuum Packing Storage	12 months	

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3. PHYSICAL PROPERTIES

DIVISION		REMARKS
Hardness (Shore's A)	65 ~ 70	◇ Press Time 150°C×6 ~ 7mins
300% Md. (Kgf/cm ²)	48 ~ 50	
Tear Strength(Kgf/cm)	40 ~ 45	
Tensile Strength(Kgf/cm ²)	130 ~ 150	
Elongation (%)	600 ~ 700	
Specific Gravity (g/cc)	1.08 ~ 1.10	
Abrasion Loss (Akron, cc)	0.20 ~ 0.25	