

ALUMINUM ALLOY PISTON MATERIALS

(Chemical composition) %

NO.	Cu	Mg	Ni	Si	Ti	Fe	Zn	Mn
AC5A	3.5-4.5	1.2-1.8	1.7-2.3	<0.6	<0.2	<0.8	<0.1	<0.1
AC8A(LOEX)	0.8-1.3	0.7-1.3	1.0-2.5	11.0-13.0	<0.2	<0.8	<0.1	<0.1
AC8B	2.4-4.0	0.5-1.5	0.5-1.5	8.5-10.5	<0.2	<1.2	<0.5	<0.5
AS-19	0.5-2.6	0.5-1.5	0.5-1.5	18.0-20.0	<0.5	<0.8	<0.5	<0.5
AS-23	0.5-2.5	0.5-1.5	0.5-1.5	22.0-24.0	<0.5	<0.8	<0.5	<0.5

(Mechanical properties)

NO.	(Heat-treatment)	(Tensile strength)	(Hardness)	(Elongation)	(Thermal Expansion)			(Specific gravity) g/cm ³
					20°-100°C	20°-200°C	20°-300°C	
AC5A	T6	<30	63-75	>0.8	21.3 × 10 ⁻⁶	22.7 × 10 ⁻⁶	24.5 × 10 ⁻⁶	2.83
	T7	<26	54-66	>1.0				
AC8A	T6	<28	64-74	>0.5	19.2 × 10 ⁻⁶	20.6 × 10 ⁻⁶	21.9 × 10 ⁻⁶	2.73
	T7	<25	55-65	>0.6				
AC8B	T5	<23	57-69	>0.5	20.2 × 10 ⁻⁶	21.6 × 10 ⁻⁶	21.3 × 10 ⁻⁶	2.75
	T6	<28	64-74	>0.5				
	T7	<25	55-65	>0.6				
AS19	T5	<20	57-69	>0.3				
	T6	<22	64-74	>0.3				
	T7	<21	54-66	>0.3				
AS23	T6	<18	63-75	>0.3				
	T7	<18	54-66	>0.3				

(Heat treatment)

NO.	(Quenching)	(Tempering)
T5		200°C 10HRS
T6	475°-510°C	175°C-205°C 10-12HRS
T7	470°-510°C	210°C-240°C 10-16HRS

(Chemical composition limits of piston pin %)

NO.	C	Si	Mn	P	S	Mo	Cr
SCM-21	0.13-0.18	0.15-0.35	0.60-0.85	<0.030	<0.030	0.15-0.35	0.90-1.20
SCM-22	0.18-0.23	0.15-0.35	0.60-0.85	<0.030	<0.030	0.15-0.35	0.90-1.20

NDE NO.	O.E.M. PEF. NO.	EQUIVALENT MODELS DESCRIPTION		NO. CYL	CYL. DIA.	PISTON				PIN	
						LENGTH	COMP. DIST.	RING		DIA.	TL
								COMP.	OIL		
NDE-PK-001	13101-GN5-1100	GN5	100 cc	1	50.00	44.20	19.2	1.0-2	2.0-1	13	38.0
NDE-PK-002		HERO CD100	100 cc	1	50.00	44.20	19.2	1.0-2	2.0-1	13	38.4
NDE-PK-003		SPLENDOR	100 cc	1	50.00	39.20	19.2	0.80-2	2.0-1	13	
NDE-PK-004		WAVE-110	100 cc	1	50.00	41.50		1.0-2	2.0-1	13	38.5
NDE-PK-005		WIN	100 cc	1	50.00	44.20	19.2	1.0-2	2.0-1	13	38.0
NDE-PK-006	13101-350-010	C110	110 cc	1	52.40	37.00		1.0-2	2.0-1	13	
NDE-PK-007		YUMBO C110	110 cc	1	52.50	37.00		1.0-2	2.0-1	13	
NDE-PK-008		BACCIO PX110	110 cc	1	52.50	37.00		1.0-2	2.0-1	13	
NDE-PK-009	13101-446-770	XR200	200 cc	1	65.50	52.70		1.2-2	2.5-1	15	50.0
NDE-PK-010		CG125	125 cc	1	56.50	55.00		1.2-2	2.5-1	15	
NDE-PK-011		TITAN 99	125 cc	1	56.50	44.00		1.0-2	2.0-1	15	
NDE-PK-012		TITAN 2000	125 cc	1	56.50	44.00		0.80-2	2.0-1	15	
NDE-PK-013		TITAN 03-04	125 cc	1	56.50	40.00		0.80-2	2.0-1	13	
NDE-PK-014		CRYPTON		1	49.00	37.00		1.0-2	2.0-1	13	
NDE-PK-015		RX150	150 cc	1	62.00	51.00		1.2-2	2.5-1	15	
NDE-PK-016		YBR	125 cc	1	54.00	38.00		1.0-2	2.0-1	15	
NDE-PK-017		YUMBO TOP 125	125 cc	1	54.00	39.50		1.0-2	2.0-1	14	
NDE-PK-018		VX125	125 cc	1	52.00						
NDE-PK-019		ROAD POWER 125	125 cc	1	52.00						
NDE-PK-020		SCOOT MAS		1	43.00	46.00		1.5-2 K		10	
NDE-PK-021		DAKAR 200 CC	200 cc	1	69.00	49.00		1.0-2	1.5-1	17	
NDE-PK-022		HONDA CG150	150cc	1	62.00	54.50		1.2-2	2.5-1	15	
NDE-PK-023		HONDA GY6 150	150cc	1	57.40	38.50		1.0-2	2.0-1	15	
NDE-PK-024		HONDA GY6 125	125cc	1	54.50	37.60		1.0-2	2.0-1	15	
NDE-PK-025		HONDA GY6 125	125cc	1	52.40	37.00		1.0-2	2.0-1	13	
NDE-PK-026		AX100	100 cc	1	50.00	60.00	31.00	1.5-2 K		14	41.5
NDE-PK-026		Bajaj CT100	100 cc	1	53.00	45.50	20.70	0.80-2	1.5-1	13	40.0