

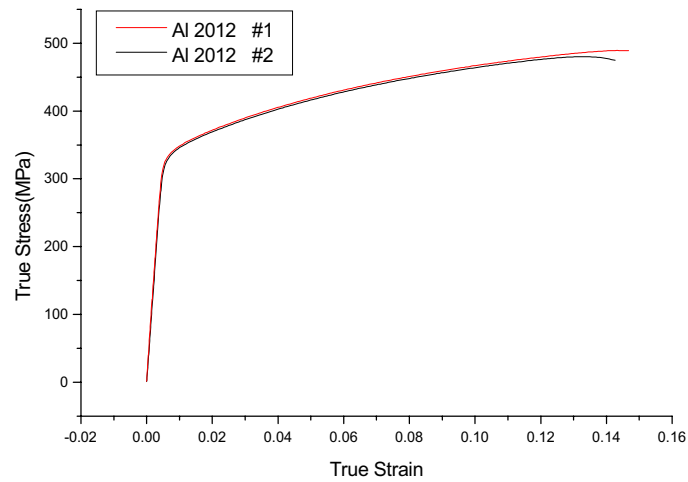


AIS 2000 was awarded NT mark from Korean government, MOCIE

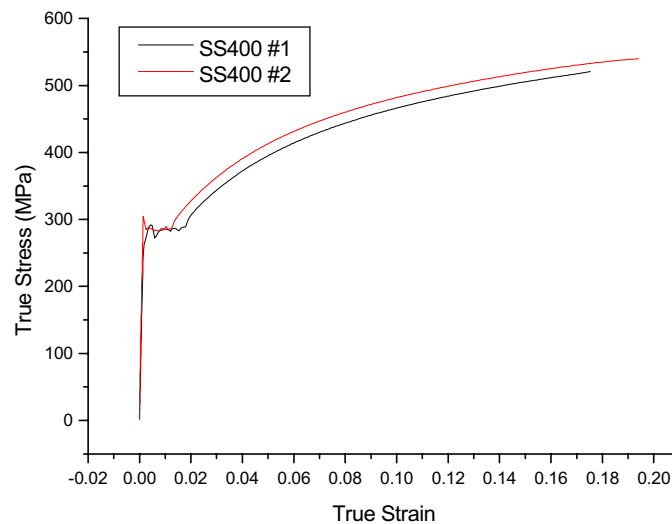
NT mark : A certificate of new technology(NT mark : New Technology mark) is given to the first developed technology in Korea after verification of technology evaluation committee that verify its originality and quality.

Test Results

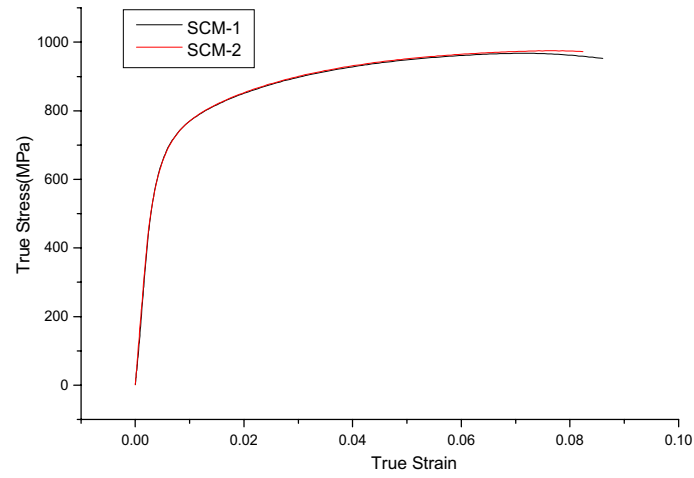
(All results were performed by technology evaluation committee of Korean government, MOCIE.)



(a)



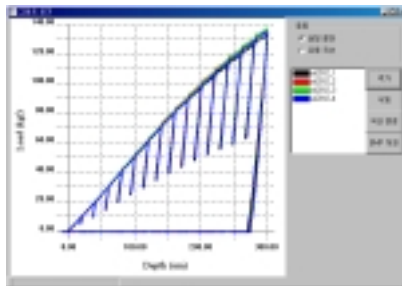
(b)



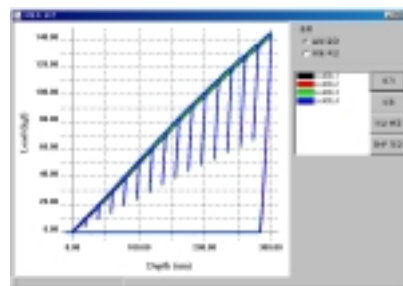
(c)

Fig. 1. Stress-strain curves of conventional tensile test.

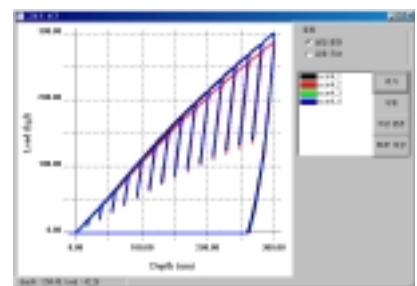
(Al 2012 (a), SS 400 (b), and SCM 4 (c), respectively)



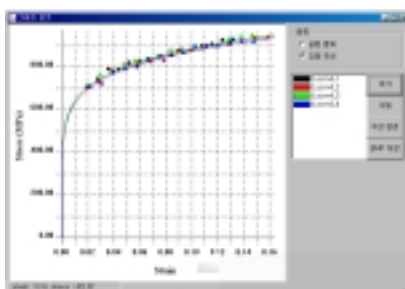
(a)



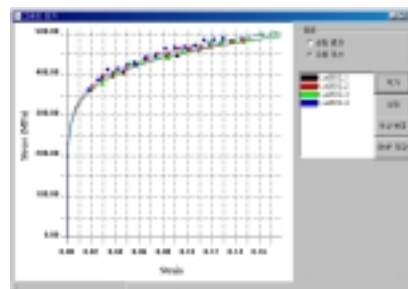
(b)



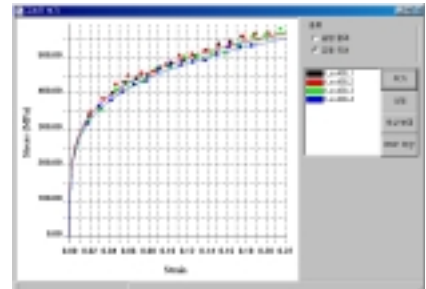
(c)



(d)



(e)



(f)

Fig. 2. Load-depth curves of Al 2012 (a), SS 400 (b), and SCM 4 (c), respectively and calculated stress-strain curves of Al 2012 (a), SS 400 (b), and SCM 4 (c), respectively.

1. Nonferrous metal (Al 2012)

1-1. Conventional tensile test

Al 2012			
Specimen #	YS(MPa)	UTS(MPa)	n
1	334.9	489.2	0.13692
2	332.1	480.3	0.13627
Average	333.5	484.8	0.137

1-2. AIS 2000 test

Al 2012			
specimen #	YS(MPa)	UTS(MPa)	n
1	327.2	479.4	0.143
2	335.3	478.5	0.136
3	329.6	480.8	0.142
4	338.0	487.9	0.139
Average	332.5	481.6	0.140
Error	0.3%	0.6%	2.7%

2. Low-strength steel (SS400)

2-1. Conventional tensile test

SS 400			
specimen #	YS(MPa)	UTS(MPa)	n
1	282.4	520.7	0.23662
2	285.8	540	0.21906
Average	284.1	530.4	0.228

2-2. AIS 2000 test

SS 400			
specimen #	YS(MPa)	UTS(MPa)	n
1	288.6	572.1	0.221
2	293.5	566.6	0.215
3	275.6	571.7	0.232
4	278.8	555.3	0.222
Average	284.1	566.4	0.222
Error	0.0%	6.8%	2.4%

3. High-strength steel (SCM 4)

3-1. Conventional tensile test

SCM 4			
specimen #	YS(MPa)	UTS(MPa)	n
1	681.23	967.95	0.12925
2	687.4	975.24	0.13068
Average	684.3	971.6	0.130

3-2. AIS 2000 test

SCM 4			
specimen #	YS(MPa)	UTS(MPa)	n
1	642.7	933.4	0.141
2	644.8	913.0	0.134
3	645.7	924.2	0.137
4	632.0	921.2	0.142
Average	641.3	923.0	0.139
Error	6.3%	5.0%	6.6%