IDENTITY CARD FOR MQXA LOW-BETA QUADRUPOLE
MQXA-12

General	
Tested at KEK	9 Jun. 2003 - 4 Jul. 2003
MEB approval	
Prepared by	N. Ohuchi, T. Nakamoto
Last modified	29 Jan. 2004

Coil performance	
1st quench, A	7051.9
2nd quench, A	7011.7
Nb quenches to 215T/m	2
Nb cooldown	1
1st quench after last TC, A	

Electrical insulation		
He-gas; < 10K, 1500V, 1 min.	Coil	40 GΩ
	Heater	>100 GΩ
Air; R.T., 3000V, 1 min.	Coil	Not yet
	Heater	Not yet

Integral magnetic field			
	Injection	Flat-top	
Magnet current	392.21	7228.06	A
Field gradient	12.360	216.27	T/m
Transfer function	31.513	29.921	T/m/kA
Magnetic length	6.364	6.367	m
b2	10000.	10000.	units
b3	-0.15	0.00	units
b4	1.34	1.29	units
b5	-0.10	-0.07	units
b6	-0.58	0.28	units
b7	-0.01	-0.01	units
b8	0.04	0.02	units
b9	-0.01	0.00	units
b10	0.03	-0.01	units
b11	-0.00	-0.00	units
a2	0.	0.	units
a3	0.61	0.06	units
a4	-0.44	-0.15	units
a5	0.06	0.05	units
a6	-0.05	0.00	units
a7	0.05	0.00	units
a8	-0.05	-0.02	units
a9	0.00	-0.00	units
a10	-0.00	-0.00	units
a11	0.00	0.00	units

Main non-conformities - specificities	
Electrical/Instrumentation	New grand insulation with pole flap hole
Mechanical	
Magnetic	
Others	Heat load from warm bore may involve with bad quench performance

Dispositions of the Magnet Evaluation Board

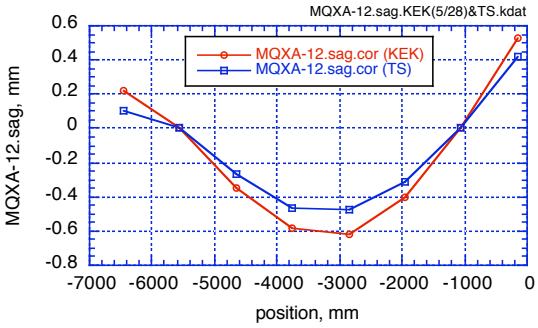
Results of the sagging, straightness and twist

The results by KEK and Toshiba (TS) are described in the following plots.

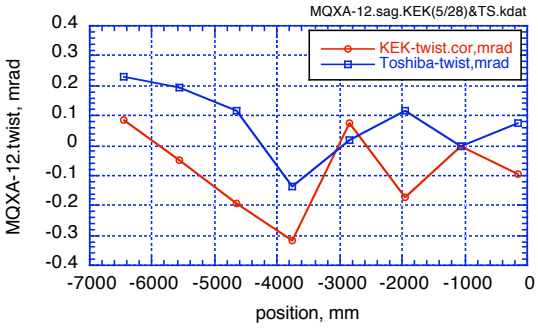
The measurements by KEK were performed both before and after the thermal cycle, while those by TS were performed before being delivered to KEK.

Before the thermal cycle

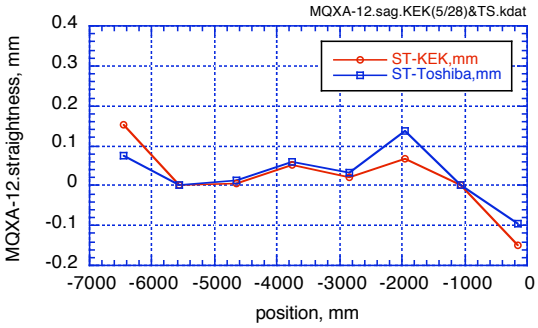
Sagging of MQXA-12



Twist of MQXA-12

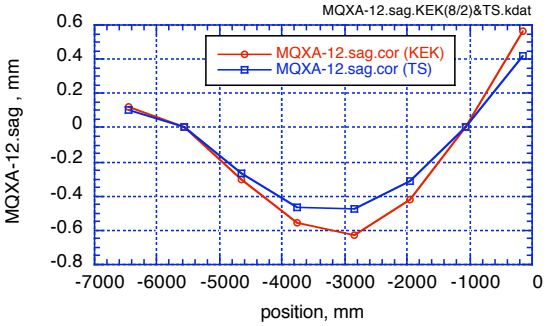


Straightness of MQXA-12

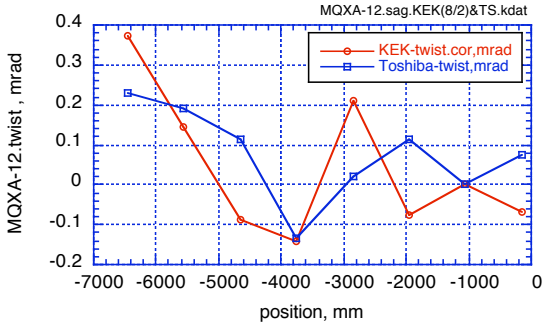
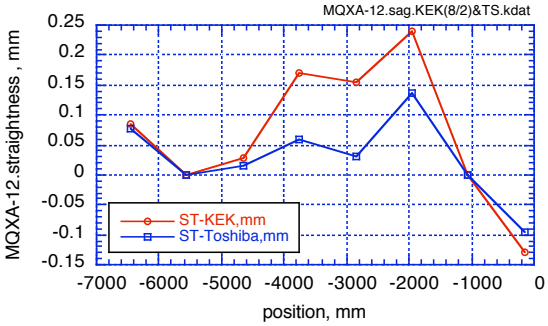


After the thermal cycle

Sagging of MQXA-12



Twist of MQXA-12



Straightness of MQXA-12