

MATERIAL CERTIFICATE - EN 10204 3.1			
NO 11-451			
CUSTOMER: Frekhaug Stål		CUSTOMER ORDER NO: FS9687	
PRODUCT: KROK 6T	CHARGE: 11A16 11C22	QUANTITY 3 17	OUR REF: ØB
MATERIAL QUALITY: S 165 M			

Chemical composition and technical delivery conditions, as per EN 10213-4

Performed by: Frekhaug Stål AS

Date:

CH. NR.	C	Si	Mn	P	S	Cr	Ni	Mo	N	Ti	Co	W	Fe
11A16	,029	,72	,49	,015	,009	16,49	4,95	1,04	-	-	-	-	Bal
11C22	,033	,783	,52	,015	,008	16,71	4,81	1,07	-	-	-	-	Bal

MECHANICAL PROPERTIES:

Performed by: Quality Lab AS

Date:

CHARGE NO	YIELD STRESS Rp 0.2 N/mm ²	TENSILE STRENGTH N/mm ²	ELONGATION A5 %	CONTRACTION Z %	IMPACT STRENGTH J (T=-20°C)	HARDNESS HB
11A16	872	969	18			316
11C22	782	997	17			322

HEAT-TREATMENT:

- HEAT TREATED AT 1020 C. COOLED IN WATER
- HEAT TREATED AT 580 C. COOLED IN AIR

Produced in Norway, by Frekhaug Stål AS.

Approved producer according to PRESSURE EQUIPMENT DIRECTIVE

97/23/EC according to Annex I, Par. 4.3.

Cert.no : TK-00024

WE CONFIRM THAT THE TEST RESULTS FROM ABOVE ARE CORRECT.

Frekhaug Date: 07.04.2011



Øystein Blom
 Qa/Technical Manager