

HOMOLOGATION CBK2000B & SINGLE KNOTT BK200 BRAKE to regulation 13			
<b>DATA FROM TEST CERTIFICATE:</b>			
CONTROL REDUCTION RATIO		$i_{H0}$	3.23
TRANSMISSION REDUCTION RATIO		$i_{H1}$	1
CONTROL EFFICIENCY		$\eta_{H0}$	0.998
TRANSMISSION EFFICIENCY		$\eta_{H1}$	1
COUPLER MAX MASS THAT CAN BE BRAKED AS PER MANUFACTURER (kg)		$G'_A$	2000
MAX TRAILER MASS AS PER MANUFACTURER (kg)		$G_A$	1500
TECHNICALLY PERMISSABLE MASS PER WHEEL (kg)		$GB_0$	750
MAXIMUM BRAKING TORQUE PER BRAKE (Nm)		$M_{max}$	2300
ROLLING RADIUS OF WHEEL (m) (195R14)		R	0.325
BRAKE CHARACTERISTIC (Nm/n)		$\rho$	0.984
NUMBER OF BRAKES ON TRAILER		n	2
FORCE REQUIRED AT BRAKE TO ACHIEVE 0.5 BRAKING BETWEEN TYRE & ROAD (N)		P	1229.1
SEE GRAPH		P'	
FORCE REQUIRED AT BACK PLATE TO ACHIEVE $M_{MAX}$		P"	2377
BRAKE RETRACTION FORCE (N)		$P_0$	-40
FORCE REQUIRED TO OVERCOME AUTOREVERSE (N)		P*	600
FORCE WHICH P* MAY NOT EXCEED		P**	1200
COUPLER SUPPLEMENTARY FORCE (N)		K	320
TRAVEL OF COUPLER HEAD & SHAFT (mm)		s	90
EFFECTIVE TRAVEL OF CONTROL OF COUPLER (mm)		s'	90
MAXIMUM COMPRESSIVE FORCE (N)		D1	1050
MAXIMUM TRACTIVE FORCE (N)		D2	5400
BRAKE DRUM DIAMETER (mm)		D	202
STRESS THRESHOLD (N)		$K_A$	420
BRAKE REDUCTION RATIO		$i_g$	14.5
PRESCRIBED SHOE LIFT (mm)		$s_{B^*}$	1.6
ACTUAL SHOE LIFT (mm)		$s_B$	1.67
<b>COMPLIANCE OF COUPLER:</b>			
$P^* < P^{**}$		TRUE	PASS
$0.02gXG'_A < K_A < 0.04g XG'_A$		TRUE	PASS
<b>COMPLIANCE OF BRAKES:</b>			
SEE TEST CERTIFICATE			PASS
<b>CALCULATIONS COMPATIBILITY BETWEEN BRAKES AND COUPLER:</b>			
$i_H = i_{H0} \times i_{H1}$			3.23
$\{(0.49 \times 10 \times G_A \times R / \rho) + n \times P_0\} / \{(0.1 \times 10 \times G_A - K) \times n \times H_0 \times n \times H_1\}$		Z	2.04
$Z < i_H$		TRUE	PASS
$s' / \{(1.2 + 0.002D) \times i_g\}$		Y	3.87
$Y > i_H$		TRUE	PASS