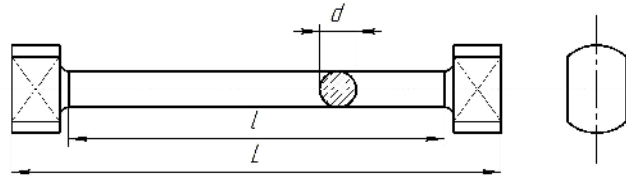


1. :

2. :



3. :

	$d,$	$l,$	$W_p, \text{ }^3$
	12	110	0,34
	14	110	0,54

4. :

	$M_T,$	$M,$	$\varphi,$	
	65	130	1130	-
		150	50	45

5. :

	191,18	382,35	102,73
		277,78	4,55

6. :

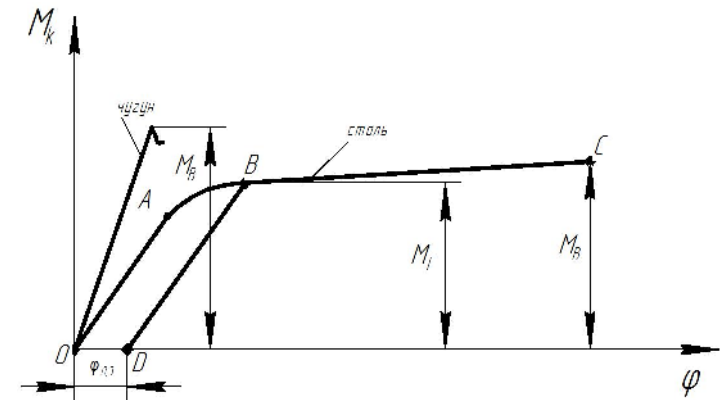
$$W_p = \frac{\pi d^3}{16} = \frac{3,14 \cdot 1,2^3}{16} = 0,34 \text{ }^3; W_p = \frac{\pi d^3}{16} = \frac{3,14 \cdot 1,4^3}{16} = 0,54 \text{ }^3;$$

$$\tau = \frac{M}{W_p} = \frac{65}{0,34} = 191,18; \tau = \frac{M}{W_p} = \frac{130}{0,34} = 382,35;$$

$$\tau = \frac{M}{W_p} = \frac{150}{0,54} = 277,78;$$

$$\theta = \frac{\varphi}{l} = \frac{1130}{11} = 102,73 /; \theta = \frac{\varphi}{l} = \frac{50}{11} = 4,55 /.$$

7. :



8. :

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