

4. Cold-rolled carbon steel

4.3. ROLLED STEEL FOR COLD STAMPING, GRADES 01YUT UNDER TU 14-106-632-2001, DC05, DC06 UNDER EN 10130

Table 4.8. Chemical composition of steel (by heat, taken from ladle sample)

Fraction of total mass, %										
C	Mn	Ti	Met Al	Si	S	P	Cr	Ni	Cu	N
0,008 max	0,10–0,18	0,07–0,12	0,03–0,06	0,02 max	0,012 max	0,010 max	0,03 max	0,03 max	0,06 max	0,006 max

Table 4.9. Mechanical properties of steel

Steel grade (drawing ability)	Yield point N/mm ² max	Tensile strength N/mm ²	Elongation, %, with thickness of		Normal plastic anisotropy coefficient \bar{r}_{90}	Strain hardening coefficient \bar{n}_{90}
			less than 0,7 mm	from 0,7 mm to 1,5 mm		
			min			
01YuT (VOSV-T)	175	260–330	40	42	2,1	0,22
01YuT (VOSV)	185	270–350	38	40	2,0	0,21
DC05	180	270–330		40	1,9	0,200
					\bar{r}_{90}	\bar{n}_{90}
DC06	180	270–350		38	1,8	0,220

Rolled steel may be produced 900–1800 mm wide, up to 2.5 mm thick.

For grades DC05, DC06:

- 1) mechanical properties apply to skin-passed products only.
- 2) with thickness of less or equal to 0.7 mm and more than 0.5 mm the yield point value is increased by 20 N/mm². With thickness of less or equal to 0.5 mm the value is increased by 40 N/mm².
- 3) values of \bar{r}_{90} and \bar{n}_{90} or r and n apply to products with thickness equal or more than 0.5 mm.
- 4) with thickness of more than 2 mm the value of \bar{r}_{90} or r is decreased by 0.2.
- 5) if not stated otherwise at the time of enquiry and order, they may be supplied as alloyed (e.g. with boron or titanium) steel grades.
- 6) for design purposes yield point lower limit may be assumed for steel grade DC05 as equal to 140 N/mm², for steel grade DC06 — as equal 120 N/mm².
- 7) with thickness of less or equal to 0.7 mm and more than 0.5 mm minimum elongation value is decreased by 2 points. With thickness of less or equal to 0.5 mm the minimum value is decreased by 4 points.

Rolled steel may be produced with special mechanical properties on demand by customer.