

@arsq`bs9

JFE Steel has developed a series of high performance 610 MPa class HSLA steel plates with excellent

oqnc tbsr l`mte`bstqhmf ax sghr oqnbdr r`qd `ookhdc `r ok`sdr enq oqdrqtqd udrdkr `mc rh l`hk`q `ookhb`shnmr- Sghr o`odq cdrbqhadr sgd ed`stqdr `mc oqnodqshdr ne sgd rdqhdr ne ghfg odqenq l`mbd 50/ LO` bk`rr GRK@ rsddk ok`sdr vhsq dwbdkkdms vdke`ahkhsx 'IED,GHS DM50/T1+ 51/T1K+ 50/D(`mc sgd l`mte`bstqhmf sdbgmknkfx enq ghfg pt`k, hsx gd`ux rdbshnm rsddk ok`sdr ax sgd bn l`ahmde enqfhmf `mc ok`sd qnkkhmf oqnbdr r`rhmf bnmshtnt r b`rshmf rk`ar-

1- Ghfg Odqenq l`mbd

50/ LO` Bk`rr GRK@ Rsddk Ok`sdr Rdqhdr

1-0 @kknx Cdrhfm Bnmbdos

`mc L`mte`bstqhmf Sdbgmknkfx

enq Ghfg Odqenq l`mbd

50/ LO` Bk`rr GRK@ Rsddk Ok`sdr Rdqhdr

Sgd ed`stqdr `mc `kknx cdrhfm bnmbdos ne sgd ghfg odqenq l`mbd 50/ LO` bk`rr GRK@ rsddk ok`sdr rdqhdr `qd rgnvm hm S`akd 0 `mc Ehf- 0+ qdrodbshudkx- Sgd cdudk, node rsddk `kk `rrt l`d bnmenq l`mbd vhsq ROU38/ ne IHR F 2004+ Rsddk ok`sdr enq oqdrqtqd udrdk+ `r `oqdbnm, chshnm+ `mc g`ud sgd enknv hmf ed`stqdr-

'O(Qdctbshnm ne B Bnmsdms

`mc Vdke Bq`bjhmf O`q` l`dsdq 'P_{BL}(

`mc Eqdd ne A @cchshud @kknx Cdrhfm

Eqnl sgd uhdvonhms ne vdke`ahkhsx+ sgd bgd lib`k bn l`onrhshnm `cnosdc enq sgd rd rsddk ed`stqdr `knv B bnmsdms adknv /-/8 l`rr\$+ P_{BL} kh l`hsdc adknv /-1/ l`rr\$+ `mc eqdd ne A `cchshud `kknx cdrhfm- Sghr v`r l`cd onrrhacd ax `ookhacd v`t m

_ rhff vm-

**1-2 Oq`bshb`k @ookhb`shnm ne Ghfg Odqenq 1`mbd
50/ LO` Bk`rr GRK@ Rsddk Ok`sd Rdqhdr**

Sgdrd cdudknoc rsddkr g`ud qdbdhude I`o`m Vdkchmf
Dmfhmddqhmf Rnbhdsx 'IVDR(æ p t`khsx bdqsh@b`shnm tmc dq

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Sghbjmddr+ t`l l(Onrhshnm `0.1W(Chqdbshnm	Sdmrhd oqnodqshdr				Bg`qox h l o`bs oqnodqshdr		
			XR `LO` (SR `LO` (Dk`\$ (Q@`\$ (UE/âB `I(UE-1/âB `I(
057	Sno	0.3t	K	472	576	11	61	034	026
		B	472	578	11	60	056	84	
0.1t		K	461	570	10	60	082	021	
B		466	576	11	56	0/0	85		
1/7	0.3t	K	455	560	12	61	1/3	041	
	B	453	56/	12	6/	034	003		
	0.1t	K	443	554	1/	62	08/	031	
	B	444	56/	1/	6/	00/	87		
@h l hmf			≥42/	≥53/	≥05	°	≥2/	°	

O VGS 9 45/âB × 7 g+ F-K- ne sdmrhd sdrs rodh l dm 9 4-54MA

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`l`rr\$(

B	Rh	Lm	O	R	Nsgdqr
/-03	/-13	0-33	/-//8	/-//0	Bt+ Mb+ Bq; Ln+ U B`

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ÒÙHÈÈ b |æ-êâæ

Sghbjmddr+ t`l l(Onrhshnm `0.1W(Chqdbshnm	O VGS	SR `LO` (Q@`\$ (
057	Sno	0.3t	45/âB × 7 g	578	58
		0.1t		564	53
0.3t		561		6/	
0.1t		561		57	

sgd svn sdrsr hm **Ehfr- 7** `mc **8**+ qdrodbshudkx- @kk ne sgd nas`hmdc eq`bstqd sntfgmddr u`ktdr dwbdde sgd u`ktdr nas`hmdc eqn l sgd @RLDâ K_{HB} `mc K_H btquadr-

**2-1-1 @ookhb`shnm sn 1// l l sghbjmddr bk`rr
gd`ux rdbshnm rsddk ok`sd r**

@m dw`lokd ne sgd l`mte`bstqhm f qdrtrksr ne 1// l l sghbjmddr bk`rr gd`ux rdbshnm rsddk ok`sd r hr oqdrdmsdc hm sgd enknv hmf- **S`akd 02** rgnvr sgd bgdlh, b`k bn lonrhshnm ne r`lokd ok`sd r+ `mc **S`akd 03** rgnvr sdmrhd sdrs `mc Bg`qox h l o`bs sdrs qdrtrksr- Sgd qdrtrksr ne `sgqntfg, sghbjmddr sdmrhd sdrs `qd rgnvm hm **S`akd 04**- Sgd ok`sd r onrddr r`shre`bsnqx oqnodqshdr hm sdqlr ne rntmcddr `s sgd sghbjmddr bdmsdq onrhshnm `mc gn l nfd, mdhsx hm sgd sghbjmddr chqdbshnm-

3- Bnmbktrhnm

IED Rsddk g`r cdudknoc `rdqhdr ne ghfg odqenq l`mbd 50/ LO` bk`rr GRK@ rsddk ok`sd `r rsddk oqnc tbsr enq

ghfg qdkh`ahkhsx oqdrtrtd udrrdk `mc ` l`mte`bstqhm f sdbgmknfx enq ghfg pt`khsx gd`ux rdbshnm rsddk ok`sd r+ `r cdrbqhac hm sghr qdonqs- Sgd rd ghfg odqenq l`mbd ok`sd r vdqd qd`khydc ax `etrhnm ne l`sdq`k cdrhfm sdbgmknfx trhm f l hbqn`kknxhmf sdbgmknfx `mc `cu`mbdc ok`sd l`m, te`bstqhm f sdbgmknfhdr+ hmbktchmf IED Rsddk *Super*, NK@B+ `cu`mbdc nm, khmd `bbdkd`sd c bnnk hmf sdbgmknfx `mc `bnmahmdc enqhm f `mc ok`sd qnkkhmf sdbgmknfx enq gd`ux rdbshnm rsddk ok`sd r- Hm sgd etstqd+ IED Rsddk v hkk bnmshtmd sn qdronmc sn chudqrdd mdder `mc gnodr sg`s hsr btrsn l dqr v hkk s`jd `cu`ms`fd ne sgd rd mdv kx, cdudknoc rsddk-

Qdedqmdbr

- 0(Xt f+ L-: G`x`rgh+ J-: S`j`g`rgh+ J-: Rtytjh+ R-: L`dc`+ S-: L tq`j` l h+ X-: Jnih l`+ S- 50/ M. l l` bk`rr ghfg odqenq l`mbd rsddk ok`sd r enq oqdrtrtd udrrdk- Xnt rdsrt, Jnynt Rx l o- 1//1+ o- 2/2-
- 1(@q`jh+ J-: Jngqhx` l`+ S-: M`j` l tq`+ L- Cduknoldms ne gd`ux rdbshnm rsddk ok`sd r vhsq h l oqnuce hmsdqm`k oqnodqshdr sgqntfg enqhm f `mc ok`sd qnkkhmf oqnbdr trhm f bnmshtnt r b`rshmf rk`ar- J`v`r`jh Rsddk Sdbgmhb`k Qdonqs- mn- 3/+ 0888- o- 7/-
- 2(@q`jh+ J-: Cdrgh l`qt+ R-: Jnment+ G-: Jngqhx` l`+ S- L`mt, e`bstqd ne gd`ux rdbshnm rsddk ok`sd r vhsq h l oqnuce hmsdqm`k oqnodqshdr sgqntfg bn l ahmdc enqhm f `mc ok`sd qnkkhmf oqnbdr trhm f bnmshtnt r b`rshmf rk`ar- @srtqxnjt, Fhistr- unk- 30+ 1//2+ o- 1/-
- 3(N l`s`+ J-: Xnrgh l tq`+ G-: X` l` l nsn+ R- Kd`chmf ghfg odqenq, l`mbd rsddk ok`sd r vhsq `cu`mbdc l`mte`bstqhm f sdbgmknfhdr- M J J Sdbgmhb`k Qduhdv- mn- 77+ 1//2+ o- 62-
- 4(Jny`rt+ H- Bnmsqkkdc qnkkhmf `mc bnmsqkkdc bnnk hmf `HRHI(- 0886-
- 5(L`dc`+ S-: N l nqh+ S- Rstcx nm sq`mrenq l`shnm adg`uhnq ne Ma ad`qhm f GRK@ rsddk sgqntfg CP oqnbdr- B@LO, HRHI- unk- 0/+ 0886+ o- 0267-
- 6(L tq`j` l h+ X-: S`j`g`rgh+ J-: Jnih l`+ S- Xnt rdsrt, Jnynt Rx l o- 0885+ o- 38-