

# High Performance 550 MPa Class High Strength Steel Plates for Buildings —Steel Plates with New Specified Design Strength, “HBL385,” which Minimize Construction Costs in Frame Fabrication and Alleviate Environmental Burden—†

G@X@RGH J dmih<sup>0</sup> ETIHR@V@ R dhih<sup>1</sup> M@J@F@V@ Hbgqh<sup>2</sup>

## Abstract:

IED Rsdck g`r cdudknoc ` ghfg rsqdmfsg rsddk ok`sd+ ©GAK274, + vhsq knvdq kh lhs xhdke rsqdmfsg ne 274 LO+ oqnuhchmf ` bn l ahm`shnm ne dbnmn lhb de@bhdmbx+ d`qsg, pt`jd qdrhrs`mbd+ `mc vdkc`ahkhsx- Sghr cdudknoc rsddk g`r sgd l hckcd rsqdmfsg adsvddm GAK244 `mc R@33/+ `mc fnnc vdkc`ahkhsx dpthu`k dms sn GAK244- Oqncbtshnm ne sghr rsddk ok`sd v`r l`cd onrrhacd enq sgd @qrs sh l d ax `ookxhmf sgdq ln, ldbg`mhk`k bnmsqk oqnbdr 'SLBO( sdbgmknfx trhmf sgd l nrs `cu`mbdc IED Rsdck`r nm, khmd `bbdkd`sd bnnk hmf rxrsd l- Gd`s `eedbsdc ymd 'G@Y( sntfgmdrr ne GAK274, D enq ghfg gd`s hmots vdkchmf v`r h loqundc ax `ookxhmf IED Rsdck`r lhbqnrstbstq`k bnm, sqnk sdbgmknfx enq ghfg gd`s hmots vdkchmf+ ©IED DVDK, `bbn l okhrg hmf sgd Bg`qox `arnqadc dmdqfx u`kt d`anud 6/ I `udq`fd( `s /âB- Sgd cdudknoc rsddk g`r addm `ooqundc ax Lhmhrsdq ne K`mc+ Hmeq`rsqbstqd `mc Sq`mronq+ `mc sgd `bst`k `ookhb`shnm qdrtrks ne sgd cdudknoc rsddk`r qd tmcq hmbqd`rd-

## 1. Introduction

Hm bnmsqbstshnm+ ghfg rsqdmfsg l`sdqh`kr `qd qdpthqdc enq trd hm ghfg, qhrd athkchmf hm bhshdr- Nm sgd nsqdg

g`mc+ hm uhdv ne eq`bstqd c`l`fd hm vdkcr ne bnkt l m sn ad`l inhms hm G`mrgm, @v`ih D`qsgpt`jd '0884(+ sgdqd g`r addm `m hmbqd`rhmf mddc enq ghfg odqenq l`mbd rsddk oqncbtbsr vhsq `knv xhdke q`shn `xhdke onhms. sdmrhd rsqdmfsg(+ ghfg sntfgmdrr+ `mc fnnc vdkc`ahkhsx hm athkc, hmf eq`l dr- Lnqndudq qd`dbshmf qdbdms dbnmn lhb bnmch, shnmr+ qdctbshnm ne bnmsqbstshnm bnrsr `qd `krn rsqnmfmx qdpthqdc-

Hm qdronmrd sn sgd rd mdder+ IED Rsdck cdudknoc ` 44/ LO` bk`rr 'knvdq kh lhs xhdke rsqdmfsg<sup>9</sup> 274 LO` ( rsddk ok`sd+ ©GAK274, vhsq sgd l hckcd rsqdmfsg adsvddm 41/ LO` `mc 48/ LO` bk`rr rsddk `r ` rsddk oqncbtbs vghbg onrrdrdr ` bn l ahm`shnm ne dbnmn l x de@bhdmbx+ d`qsgpt`jd qdrhrs`mbd+ `mc vdkc`ahkhsx `mc needqr sgd ghfgdrs dbnmn l x odq tmhs ne rsqdmfsg<sup>0</sup>- Sghr mdv oqncbtbs v`r `ooqundc ax Lhmhrsdq ne K`mc+ Hmeq`rsqbstqd `mc Sq`mronq tmcq @qshbkd 26 ne sgd Athkchmf Rs`mc`qc Knv ne I`o`m hm @oqh 1//1- L`mte`bstqd ne sghr rsddk v`r l`cd onrrhacd enq sgd @qrs sh l d ax `ookxhmf `m `cu`mbdc nm, khmd `bbdkd`sd bnnk hmf cdubd+ qdoqdrmsdc ax sgd Rtodq, NK@B<sup>14</sup> vghbg hr `l nmf IED Rsdck`r oqncdrcs sdbgmhbk `bbn l okhrg l dmsr+ `mc sgdq ln, ldbg`mhk`k bnmsqk oqnbdr 'SLBO( sdbgmknfx- Sn l dds qdbdms gdhfgsdmdc qdpthqd l dmsr enq sntfgmdrr+ `bgd l hb`k

† Nqhfhm`kx otahrqdc hm IED F#GN Mn- 4 '@tf- 1//3(+ o- 34°4/



<sup>0</sup> Rdmhng Qdrd`qbgdq Cdotx L`m`fdq  
Ok`sd % Rg`odr Qdr- Cdos+  
Rsdck Qdr- K`a+  
IED Rsdck



<sup>1</sup> Rs`ee Cdotx L`m`fdq  
Bnmsqbstshnm Dmfmddqhm f Rdqubdr Cdos+  
Bnmsqbstshnm L`sdqh`k % Rdqubdr Bdmisdq  
IED Rsdck



<sup>2</sup> Rs`ee L`m`fdq  
Ok`sd Atrhmdrr Ok`mmhm f Cdos+ IED Rsdck  
'Oqdrms Fqnto Kd`cdq+ L`sdqh`kr Bg`q`bsdqy`shnm Fq+  
Et j tx`l` Vnqjr+ @m`kxrh % Bg`q`bsdqy`shnm Chu+  
IED Sdbgm, Qdrd`qbg(



hmbkt chmf vdkcdc inhmsr<sup>5-6</sup>L

shnm g`uhmf sgd r` l d B<sub>dp</sub> `r GAK244- Vhsg sgd r` l d  
bgd l hb`k bn l onrhshnm `r GAK244+ sdmrhkd rsqdmfsg  
ne 44/ LO` b`m ad rdbtqdc to sn ` ok`sd sghbjmdrr ne  
0// l l - Nosh l hy`shnm ne sgd l hbqnrstbstqd ax ghfg,  
`bbtq`bx bnmsqnk ne sgd SLBO sdbgmknkfx l`cd hs onr,  
rhakd sn cdudkno sghr rsddk ok`sd+ vghbg ed`stqdr ` knv  
xhdkc q`shn adknv 7/ \$ hm bn l ahm`shnm vhsq ghfg rsqdmfsg

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rsq t bs tqd- H l oqnud l l



