

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 dmih⁰ ETIHR@V@ R dhih¹ M@J@F@V@ Hbgqh²

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 l hb 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`kdm sn GAK244- Oqncbtshnm
ne sghr rsddk ok`sd v`r l`cd onrrhacd enq sgd @qrs sh l d ax
`ookxhmf sgdq ln, l dbg`mhk`k bnmsqk oqnbdr 'SLBO(
sdbgmknfx trhmf sgd l nrs `cu`mbdc IED Rsdck`r nm, khmd
`bbdkd`sd bnnkxmf 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 l hbqnrstbstq`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 Lhmrsdq 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 nsdq

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(+
sgdq g`r addm `m hmbqd`rhmf mddc enq ghfg odqenq l`mbd
rsddk oqncbtbs vhsq `knv xhdke q`shn 'xhdke onhms.sdmrhd
rsqdmfsg(+ ghfg sntfgmdrr+ `mc fnnc vdkc`ahkhsx hm athk,
hmf eq`l dr- L nqndudq qd`dbshmf qdbdms dbnmn l hb 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 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 rsqdmfsg⁰- Sghr mdv oqncbtbs
v`r `ooqundc ax Lhmrsdq ne K`mc+ Hmeq`rsqbstqd `mc
Sq`mronq tmcq @qshkd 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 bnnkxmf cdubd+ qdoqdrmsdc ax sgd
Rtodq, NK@B¹ vghbg hr`l nmf IED Rsdck`r oqncdcs
sdbgmh`k `bbn l okhrg l dmsr+ `mc sgdq ln, l dbg`mhk`k
bnmsqk oqnbdr 'SLBO(sdbgmknfx- Sn l dds qdbdms
gdhfgsdmdc qdpthqd l dmsr enq sntfgmdrr+ `bgd l hb`k

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



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



¹ Rs`ee Cdotx L`m`fdq
Bnmsqbstshnm Dmfmddqhm Rduhbr Cdos+
Bnmsqbstshnm L`sdqh`k % Rduhbr Bmdsdq
IED Rsdck



² Rs`ee L`m`fdq
Ok`sd Atrhdrr Ok`mmhmf 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`qbgd

hmbkt chmf vdkcdc inhmsr⁵⁻⁶L

shnm g`uhmf sgd r` l d B_{dp} `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



rsq t bs tqd- H l oqnd l l

