

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—†

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Abstract:

IED Rsdck g`r cdudknoc ` ghfg rsqdmfsg rsddk ok`sd+ ©GAK274, + vhsq knvdq kh l h s 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 hccck 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 l n, l dbg`mhb`k bnmsqnk oqnbdr 'SLBO(sdbgmknfx trhmf sgd l nrs `cu`mbdc IED Rsdck`r nm, khmd `bbdkdq`sd bnnk hmf rxrsd l- Gd`s `eedbsdc ymd 'G@Y(sntfgmdrr ne GAK274, D enq ghfg gd`s hmots vdkchmf v`r h loqnuce 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 `ooqnuce ax Lhmhrsdq ne K`mc+ Hmeq`rsqtbstqd `mc Sq`mronqs+ `mc sgd `bst`k `ookhb`shnm qdrtkr ne sgd cdudknoc rsddk`r qd tmcq hmbqd`rd-

1. Introduction

Hm bnmsqtbshnm+ 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. sdmr hkd rsqdmfsg(+ ghfg sntfgmdrr+ `mc fnnc vdkc`ahkhsx hm athkc, hmf eq`l dr- L nqndudq+ qd`dbshmf qdbdms dbnmn l hb bnmch, shnmr+ qdctbshnm ne bnmsqtbshnm bnrsr `qd `krn rsqnmf kx qdpthqdc-

Hm qdronmrd sn sgd rd mdder+ IED Rsdck cdudknoc ` 44/ LO` bk`rr 'knvdq kh l h s xhdke rsqdmfsg 274 LO(rsddk ok`sd+ ©GAK274, vhsq sgd l hccck 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 `ooqnuce ax Lhmhrsdq ne K`mc+ Hmeq`rsqtbstqd `mc Sq`mronqs 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 `bbdkdq`sd bnnk hmf cdubd+ qdoqdrmdsd ax sgd Rtodq, NK@B¹ vghbg hr `l nmf IED Rsdck`r oqncdtrs sdbgmhbk `bbn l okhrg l dmsr+ `mc sgdq l n, l dbg`mhb`k bnmsqnk oqnbdr 'SLBO(sdbgmknfx- Sn l dds qdbdms gdhfgsdmdc qdpthqd l dmsr enq sntfgmdrr+ `bgd l hb`k

† Nqhf h`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
Bnmsqtbshnm Dmfmddqhm f Rdquibdr Cdos+
Bnmsqtbshnm L`sdqh`k % Rdquibdr Bmdsdq
IED Rsdck



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

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
xhdke q`shn adknv 7/ \$ hm bn l ahm`shnm vhsq ghfg rsqdmfsg



rsq t bs tqd- H l oqnud l l

