

## 1. Introduction

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 rncpv"Łgnf."ykej"kpewfgu"gpgti{"uvqtcig"hccknkkgu."  
 e j g o k e c n r n c p v u . " r q y g t " i g p g t c v k p i " g s w k r o g p v . " c p f " u k o k /  
 n c t k p " v j g u g " r n c p v u . " u w e j " c u " j k i j " u v t g p i v j . " k o r t q x g f " v q w i j

pguu."k o r t q x g f " y g n f c d k n k v { . " g v e 0 . " c p f " e q u v " t g f w e v k q p " j c u "  
 d g g p " f g o c p f g f 0 " O q t g q x g t . " c e v k x g " e q p u v t w e v k q p " q h " g p g t i {"  
 r n c p v u " k u " p q y " w p f g t y c { " k p " t g u r q p u g " v q " i t q y k p i " g p g t i {"  
 f g o c p f " y q t n f y k f g . " j g k i j v g p k p i " v j g " p g g f " h q t " j k i j " r g t /  
 h q t o c p e g " u v g g n u 0 " V j w u . " k v " k u " c n u q " p g e g u u c t { " v q " u g e w t g " c f g /  
 s w c v g " u w r r n k g u " q h " v j g u g " u v g n " r t q f w e v u . " u j q t v g p " e q p u v t w e /  
 v k q p " r g t k q f . " g v e 0

Wukpi"vjg"ceengtcvgf"eqqkpi"fgxkeg."Super/  
 QNCE<sup>VO</sup>\*Qp/Nkpg"Ceengtcvgf"Eqqkpi+."ykej"hgcvwtgu"  
 c"jkij"eqqkpi"ecrcekv{"cpf"wpkhqto"eqqkpi"rgthqt/  
 o c p e g . " v j g " k p f w e v k q p " j g c v k p i / v { r g " q n k p g " j g c v " v t g c v o g p v "  
 r t q e g u u " J Q R <sup>VO</sup> \* J g c v / V t g c v o g p v " Q p / N k p g " R t q e g u u + " c h v g t "  
 c e e n g t c v g f " e q q k p i . " c p f " q v j g t " c f x c p e g f " r n c v g " o c p w h c e /  
 v w t k p i " v g e j p q n i k g u <sup>VO</sup> " k p " e q o d k p c v k q p " y k v j " c f x c o p e c v

uvqemu0

## 2. Features and Concept of Developed Steels

### 2.1 Applicable Standards

#### 2.1.1 ASME SA-841/ASTM A841

Vjgt o q / o g e j c p k e c n " e q p v t q n " r t q e g u u / v { r g " U C / : 631  
 C : 63 " u v g g n u " j c x g " d g g p " u v c p f c t f k | g f " c u " u v g n " r n c v g u " v j c v "  
 e c p " d g " u w d u v k v w v g f " h q t " j g c v / v t g c v g f " U C / 7591 C 759 " u v g g n u "  
 r t q f w e g f " d { " j g c v " v t g c v o g p v " r t q e g u u g u " u w e j " c u " p q t o c n k | /  
 k p i " \* P + " q t " s w g p e j k p i " c p f " v g o r g t k p i " \* S / V + . " c p f " y g t g "  
 h q t o c n n { " t g i k u v g t g f " k p " U g e v k q p " X K K K . " F k x 0 " 3 . " 4 " k p " 4 2 3 3 "  
 c v j t q w i j c " r t q e g u u " q h " t g i k u v t g t k p i " k p " h g " E q f g " E c u g " q h " v j g "  
 C U O G " D q k n g t " ( " R t g u u w t g " X g u u g n " E q f g 0 " C u " v j g k t " v g p u k n g "  
 r t q r g t v { " t g s w k t g o g p v u " c t g " v j g " u c o g " c u " v j q u g " q h " U C / 7591

"VU" I t c f g	"Uvcpfctf	Eqpxgpkqpcn"uvcpfctf		Tgeqo ogpfgf"uvcpfctf	
		I t c f g	J g c v " v t g c v o g p v	I t c f g	J g c v " v t g c v o g p v
	"CUOG	UC/759/3	P	UC/:63C/3	VOER
"6726722	"GP"3224:	R577P."PN3."PN4	P"qt"PT	R577O."ON3."ON4	VOER
		δ	δ	R642O."ON3."ON4	VOER
"7526772	"CUOG	UC/759/4	S/V	UC/:63D/4	VOER





tgurgevknxgn{0" Kp" cm" ecugu." lqkpv" uvtgpi vj" ucvkuh{kpi " vjg" urgekŁgf" xcnwgu" qh" vjg" dcug" o cvgtken" wpfgt" vjg" CUOG" uvcpfctf"cpf"vjg"eqttgurqpfkpi"GP"uvcpfctfu"\*R577ON4" cpf"R682O."R682ON4+"cpf"jki j" ygnfgf"lqkpv"vqwi jpguu" ctg" qdvckpgf." cpf" vjg" uvggnu" fkurnc{" zegngpn" ygnfgf" lqkpv" rgtqto cpeg0

cr rnkecvkqp" qh" vjgug" uvggn" rncvgu" cu" c" uwdvkvwvg" hqt" eqp/

#### 4. Conclusion

Uvggn" rncvgu" hqt" vcpmu" cpf" rgpuvqemu" o cpwhcevwgtf" wukpi" uvcvg/qh/vjg/ctv" VOER" vgejpnqni {" rtqkfg" zegn/ ngpn" ygnfcdknv{" cpf" dcug" o cvgtkenl ygnfgf" lqkpv" rtqrgt/ vkgu." y jkng" cnuq" tgfwekpi" equvu." ujqtvgpki" rtqfwekqp" ngcf"vko g."cpf"kpetgcukpi" uwr rn {" ecrcekv{0" Ykfg/tcpikpi"