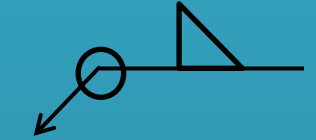
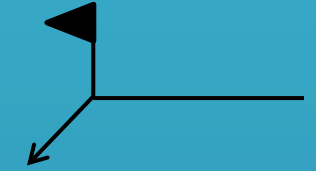
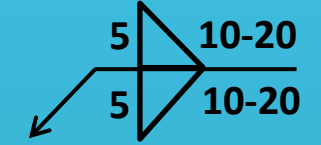
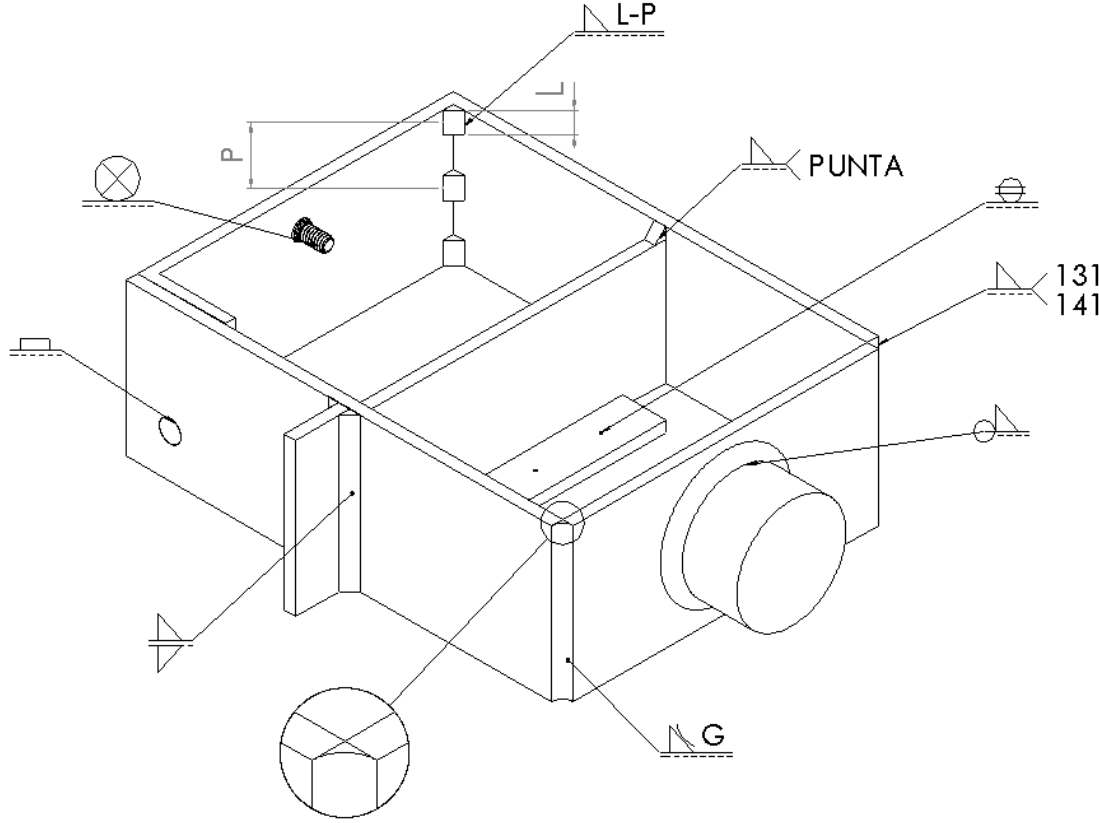


KAYNAK SEMBOLLERİNİN TEKNİK RESİMLERDE GÖSTERİLMESİ



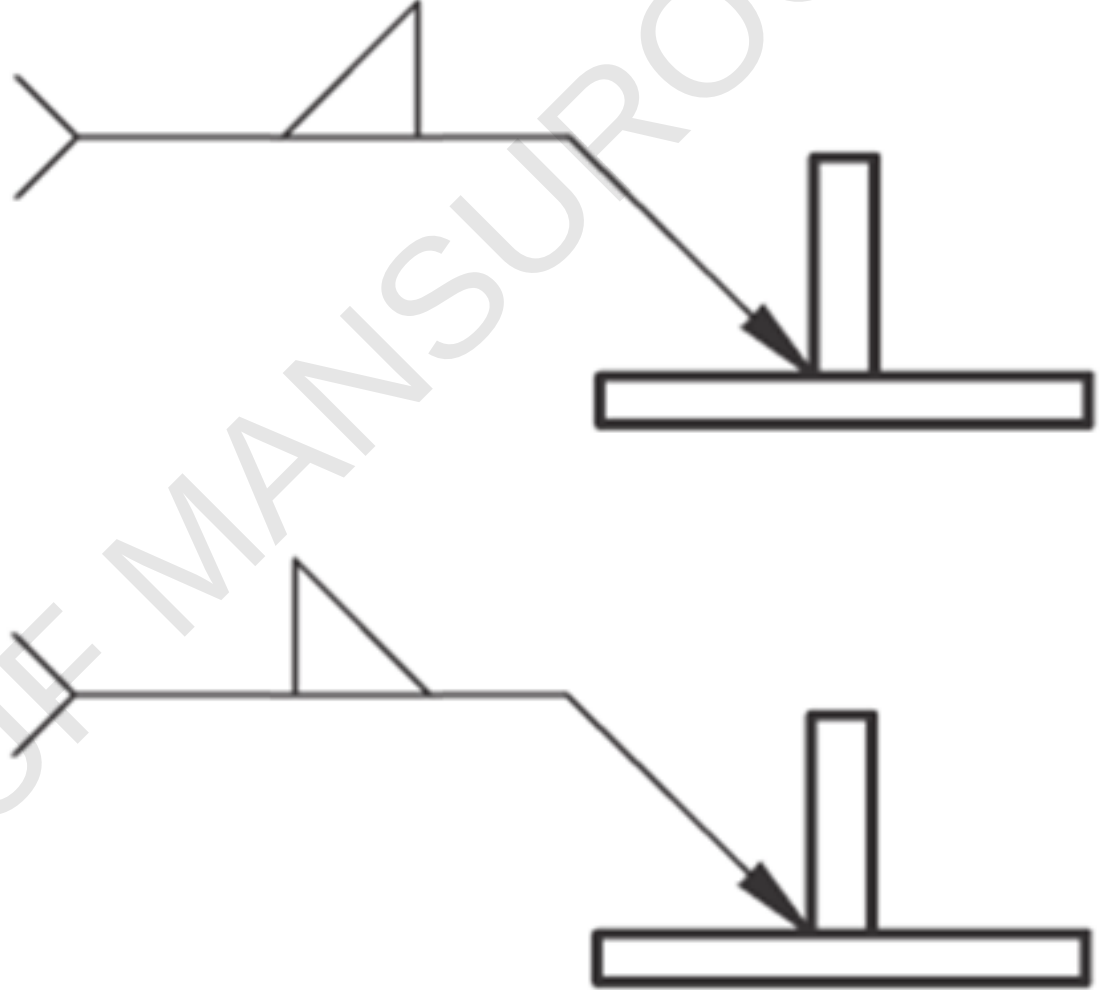
NOVA

YUSUF MANSUROĞLU

Mühendislik Hizmetleri Müdür Yardımcısı

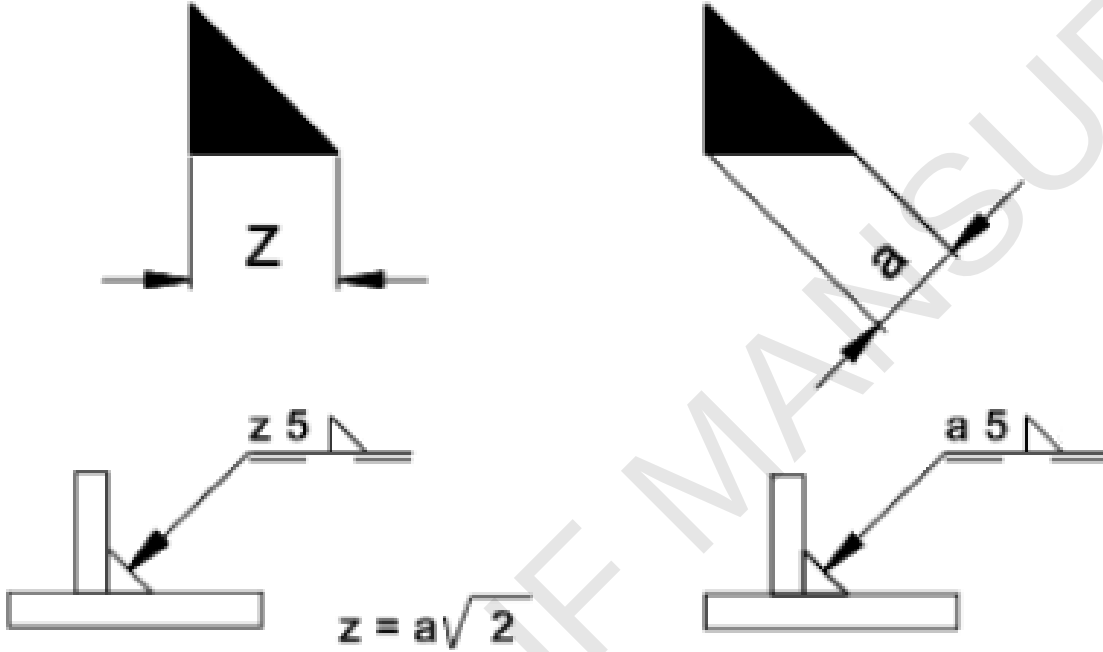
10.12.2018

Hangi kaynak sembolü doğru kullanılmış



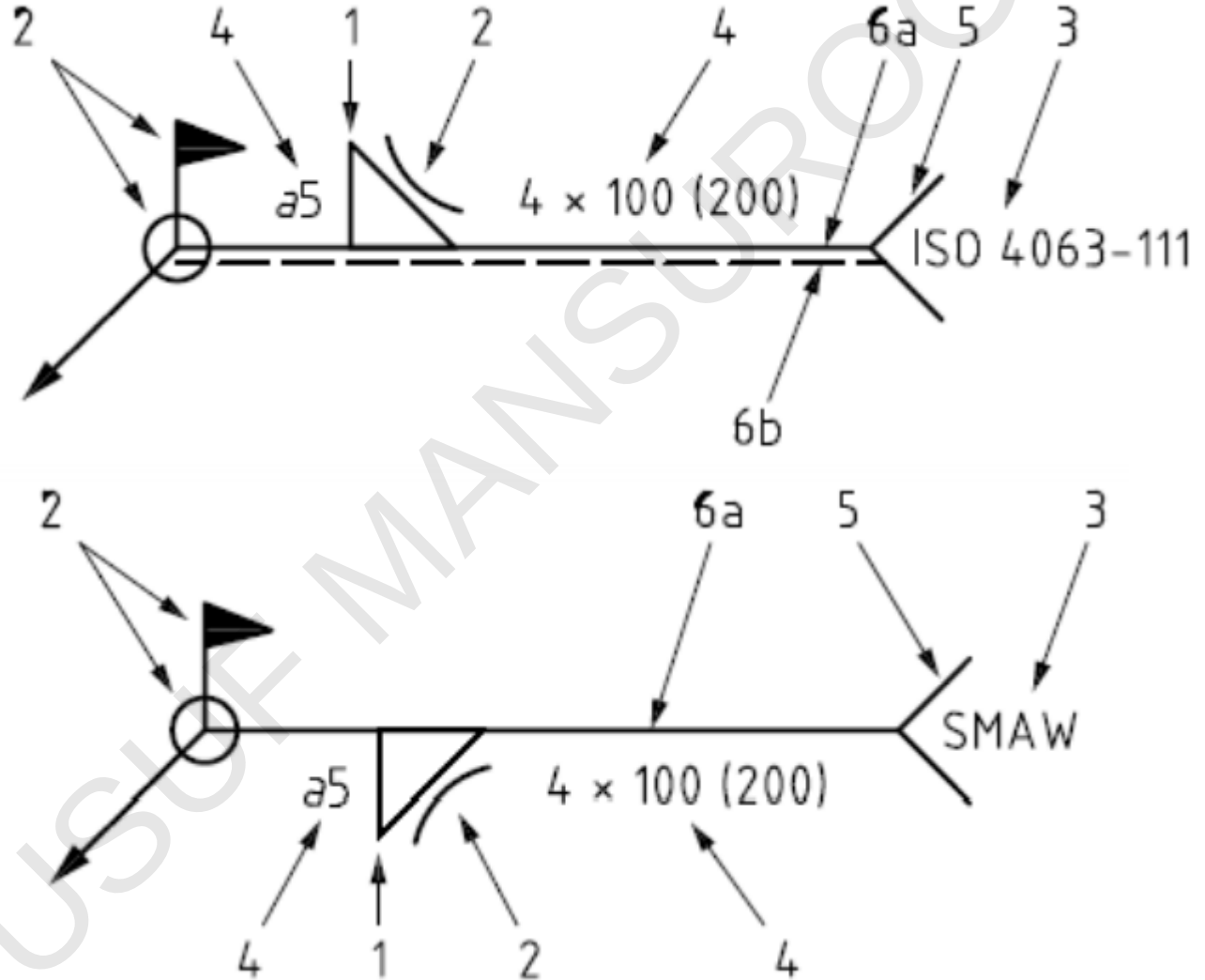
Kaynak Kalınlıklarının Gösteriliři

a veya z



Kaynak Sembollerinde Avrupa ve Amerika Standartları

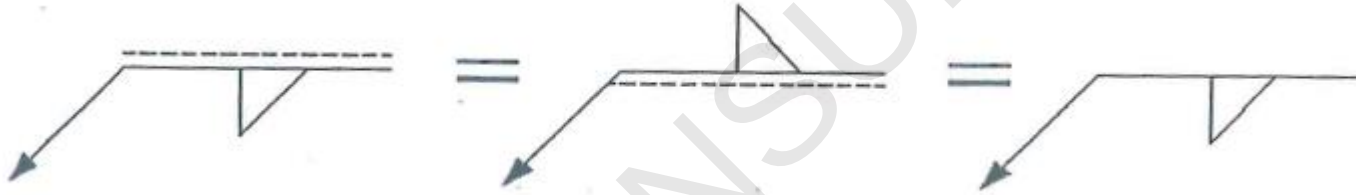
ISO 2553 - AWS A2.4



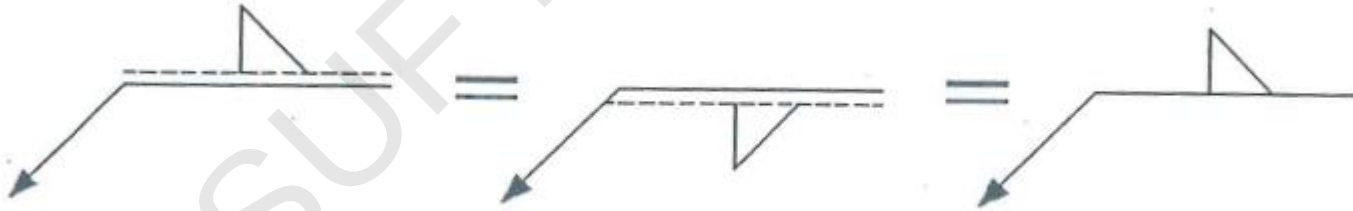
Kaynak Sembollerinde Avrupa ve Amerika Standartları

ISO 2553 - AWS A2.4

Referans çizgisine ve sembolün konumuna göre kaynak tarafı



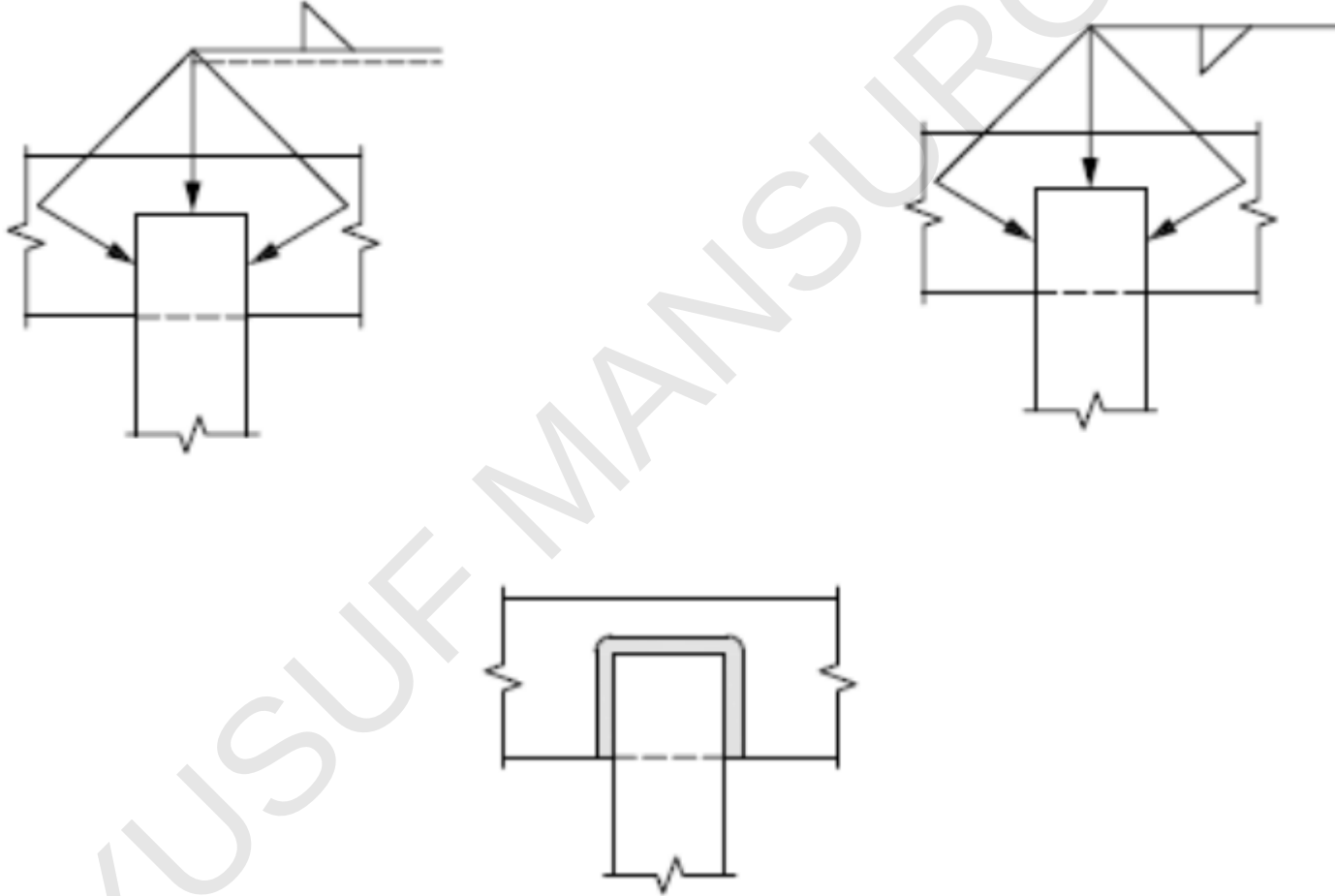
Ok tarafında yapılan kaynaklar için kullanılan sembol gösterimi



Karşı tarafta yapılan kaynaklar için kullanılan sembol gösterimi

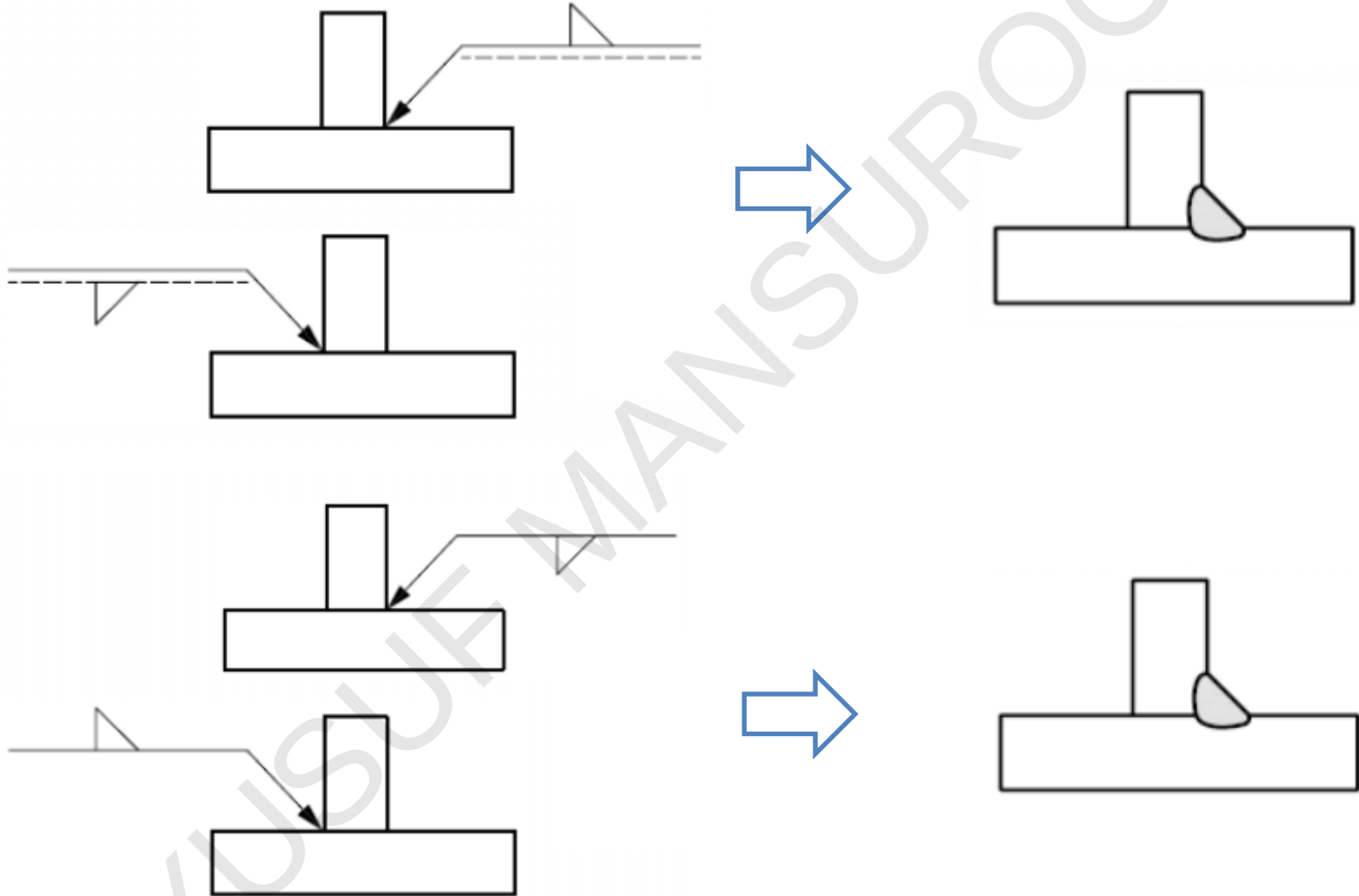
Kaynak Sembollerinde Avrupa ve Amerika Standartları

ISO 2553 - AWS A2.4



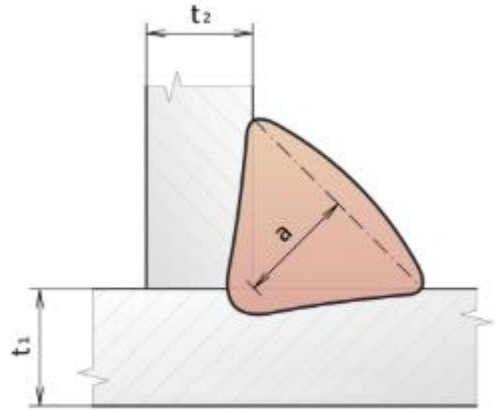
Kaynak Sembollerinde Avrupa ve Amerika Standartları

ISO 2553 - AWS A2.4

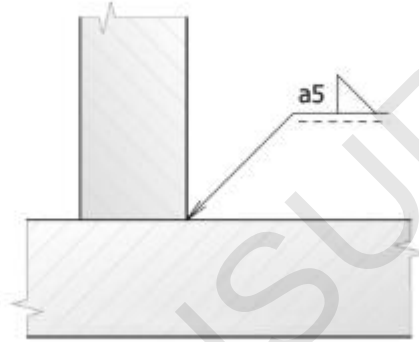


Kaynak Sembollerinde Avrupa ve Amerika Standartları

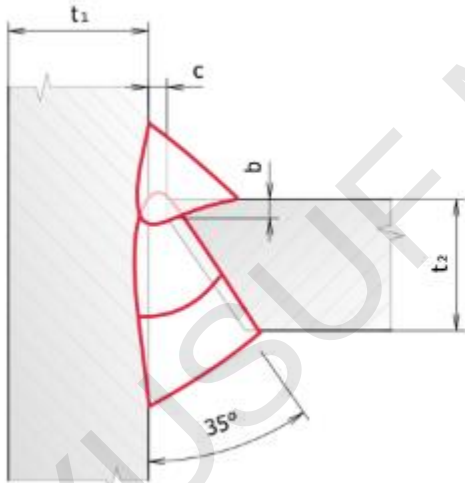
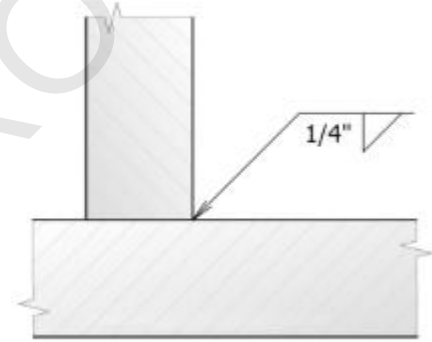
ISO 2553 - AWS A2.4



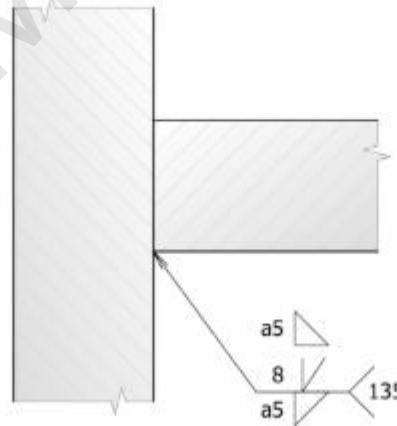
EN ISO 2553



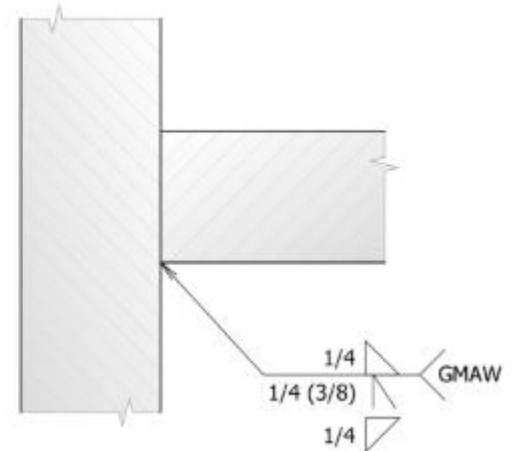
AWS A2.4



EN ISO 2553



AWS A2.4



Tahribatsız Muayene Testi NON-DESTRUCTIVE TESTING



Kaynak Yöntemi



KAYNAK YÖNTEMLERİNİN NÜMERİK KARŞILIKLARI

1	Arc Welding	2	Resistance Welding
11	Metal-arc welding without gas protection	21	Spot welding
111	Metal-arc welding with covered electrode	22	Seam welding
112	Gravity arc welding with covered electrode	221	Lap seam welding
113	Bare wire metal-arc welding	225	Seam welding with strip
114	Flux cored metal-arc welding	23	Projection welding
115	Coated wire metal-arc welding	24	Flash welding
118	Firecracker welding	25	Resistance butt welding
12	Submerged arc welding	29	Other resistance welding processes
121	Submerged arc welding with wire electrode	291	HF resistance welding
122	Submerged arc welding with strip electrode	3	Gas Welding
13	Gas shielded metal-arc welding	31	Oxy-fuel gas welding
131	MIG welding	311	Oxy-acetylene welding
135	MAG welding, metal-arc welding with non-inert gas shield	312	Oxy-propane welding
136	Flux cored metal-arc welding with non-inert gas shield	313	Oxy-hydrogen welding
14	Gas-shielded welding with non-consumable electrode	32	Air fuel gas welding
141	TIG welding	321	Air-acetylene welding
149	Atomic-hydrogen welding	322	Air-propane welding
15	Plasma arc welding	4	Solid phase welding; Pressure welding
18	Other arc welding processes	41	Ultrasonic welding
181	Carbon arc welding	42	Friction welding
185	Rotating arc welding	44	Welding by high mechanical energy
		441	Explosive welding
		45	Diffusion welding

KAYNAK YÖNTEMLERİNİN NÜMERİK KARŞILIKLARI

4	Solid phase welding; Pressure welding	916	Induction brazing
47	Gas pressure welding	917	Ultrasonic brazing
48	Cold welding	918	Resistance brazing
7	Other welding processes	919	Diffusion brazing
71	Thermit welding	923	Friction brazing
72	Electroslag welding	924	Vacuum brazing
73	Electrogas welding	93	Other brazing processes
74	Induction welding	94	Soldering
75	Light radition welding	941	Infrared soldering
751	Laser welding	942	Flame soldering
752	Arc image welding	943	Furnace soldering
753	Infrared welding	944	Dip soldering
76	Electron beam welding	945	Salt bath soldering
77	Percussion welding	946	Induction soldering
78	Stud welding	947	Ultrasonic soldering
781	Arc stud welding	948	Resistance soldering
782	Resistance stud welding	949	Diffusion soldering
9	Brazing, Soldering and Braze Welding	951	Flow soldering
91	Brazing	952	Soldering with soldering iron
911	Infrared Brazing	953	Friction soldering
912	Flame brazing	954	Vacuum soldering
913	Furnace brazing	96	Other soldering processes
914	Dip brazing	97	Braze welding
915	Salt bath brazing	971	Gas braze welding
		972	Arc braze welding

2018 Deprem yönetmeliğine göre,

TABLO 13.4 – KÖŞE KAYNAKLARIN MİNİMUM KALINLIKLARI

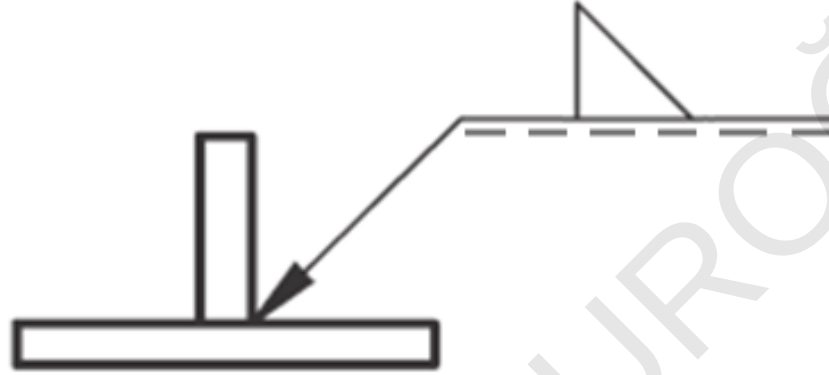
Birleşen İnce Elemanın Kalınlığı, t [mm]	Minimum Köşe Kaynak Kalınlığı, ^a [mm]
$6 \geq t$	3.0
$13 \geq t > 6$	3.5
$19 \geq t > 13$	4.0
$38 \geq t > 19$	5.5
^a : Köşe kaynakların kalınlığı. Tek geçişli kaynaklar kullanılmalıdır. Not: Köşe kaynakların maksimum kalınlığı için Bölüm 13.2.2.2 ye bakınız.	

Kaynaklanan elemanın kenar kalınlığı, t , olmak üzere (Şekil 13.3), köşe kaynakların maksimum kalınlığı için aşağıdaki koşullar gözönüne alınacaktır.

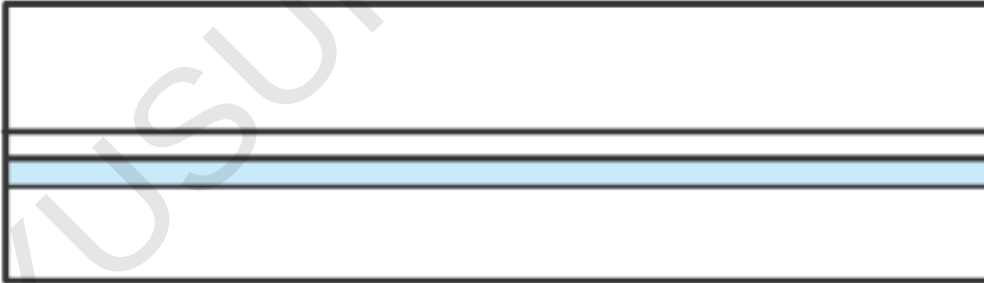
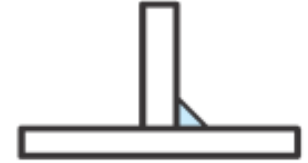
- (a) Kaynaklanan elemanın kenar kalınlığı 6mm den ince ise $0.7t$ kalınlığından büyük olamaz.
- (b) Kaynaklanan elemanın kenar kalınlığı 6mm veya daha kalın ise, öngörülen kaynak kalınlığının sağlanabilmesi amacıyla, $0.7(t - 2\text{mm})$ şeklinde belirlenecektir.

Köşe kaynakların minimum etkin uzunluğu, kaynak kalınlığının 6 katından veya 40mm den az olamaz. Bu koşulun sağlanamadığı durumda, kaynağın etkin kalınlığı, kaynak uzunluğunun $1/6$ sı olarak gözönüne alınacaktır. Lamadan teşkil edilen bir çelik çekme elemanın uç birleşiminde sadece boyuna doğrultuda köşe kaynaklar kullanılması halinde, bu kaynakların her birinin uzunluğu kaynaklar arası dik uzaklıktan daha küçük olamaz, (Şekil 13.3).

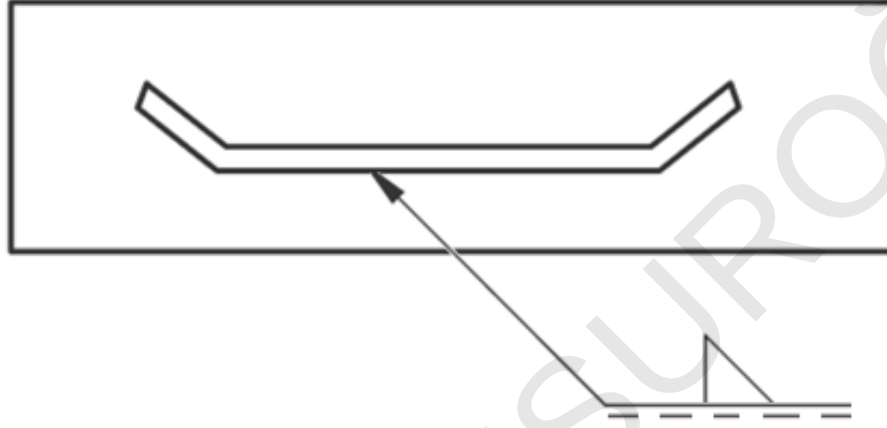
Sürekli kaynağın teknik resimde gösterilişi



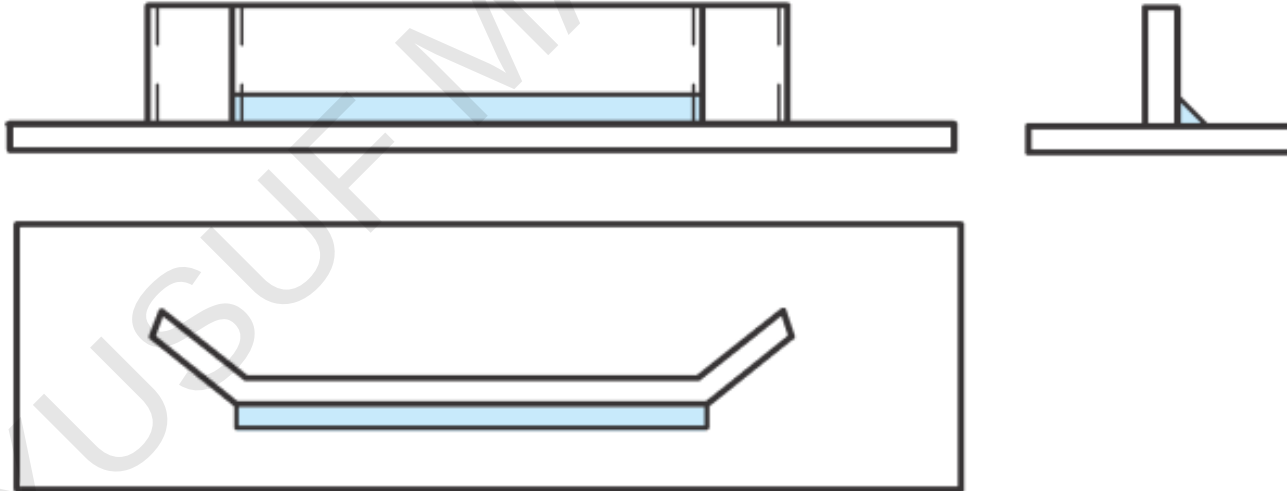
Teknik resimde yukarıdaki gibi gösterilen sürekli kaynak sembolünün anlamı aşağıdaki gibidir



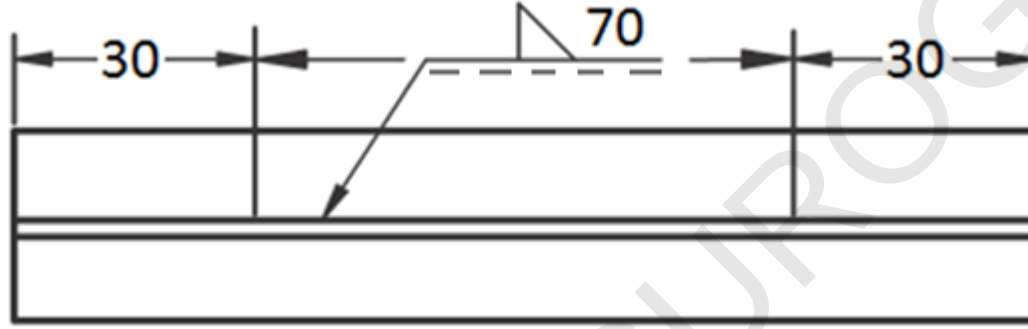
Sürekli kaynağın teknik resimde gösterilişi



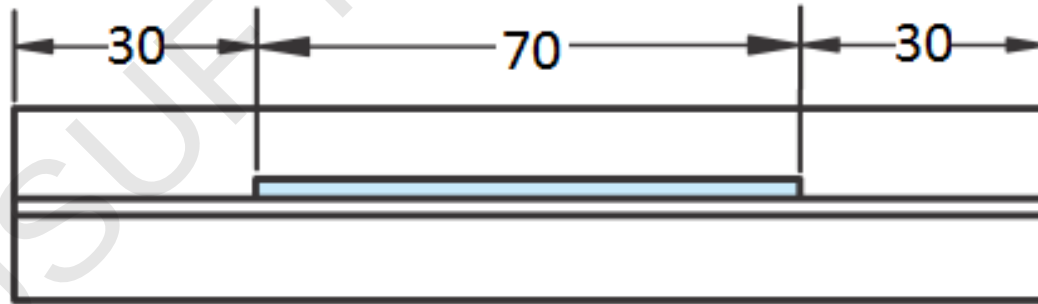
Teknik resimde yukarıdaki gibi gösterilen sürekli kaynak sembolünün anlamı aşağıdaki gibidir



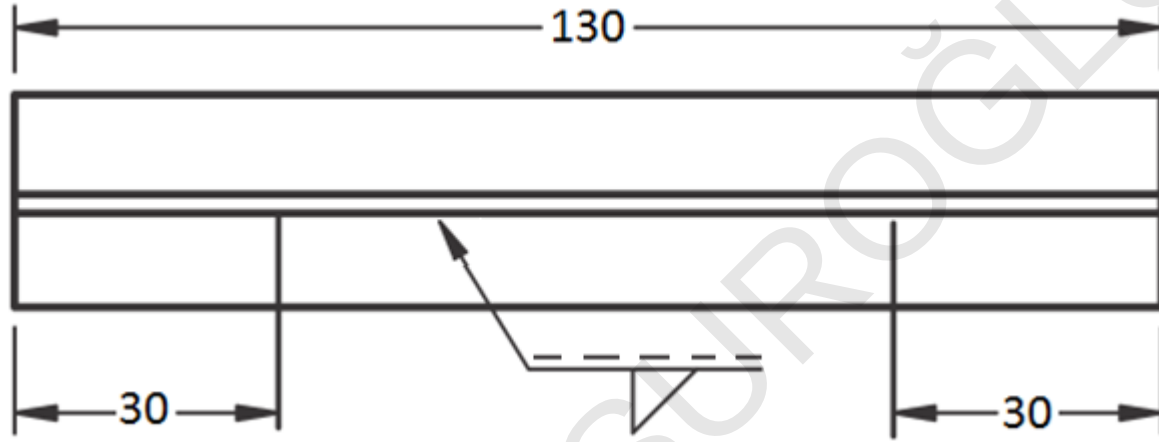
Kaynak uzunluğunun teknik resimde gösteriliři



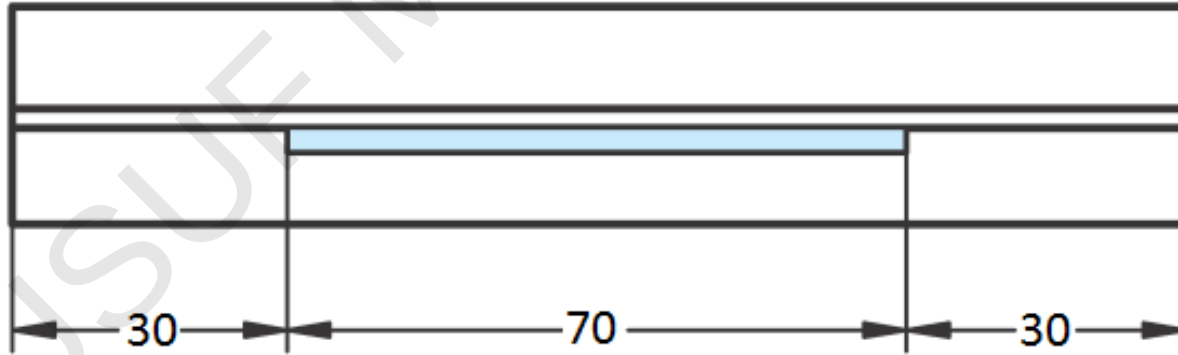
Teknik resimde yukarıdaki gibi verilen kaynak uzunluğunun anlamı aşağıdaki gibidir



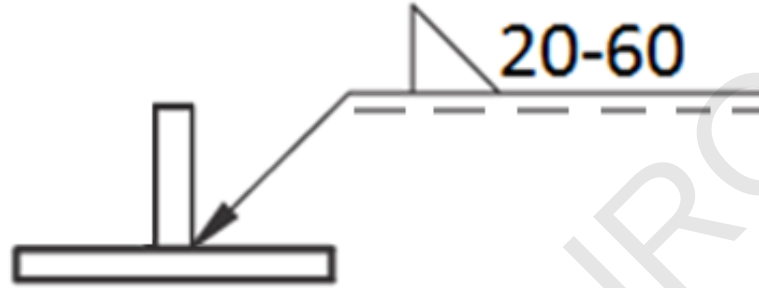
Kaynak uzunluğunun teknik resimde gösterilişı



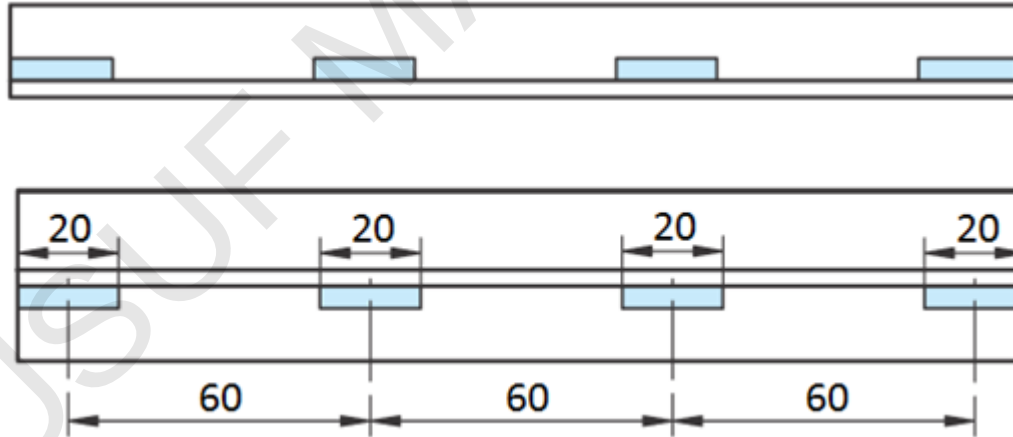
Teknik resimde yukarıdaki gibi verilen kaynak uzunluğunun anlamı aşağıdaki gibidir



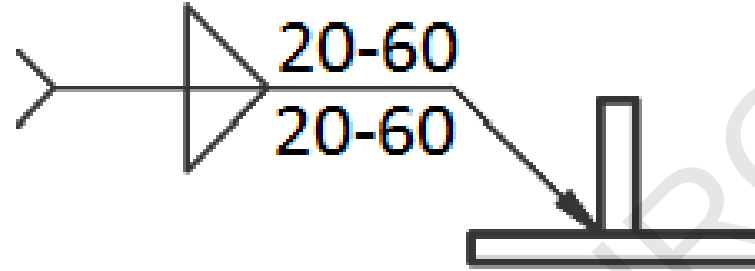
Metod kaynağın teknik resimde gösterilişi



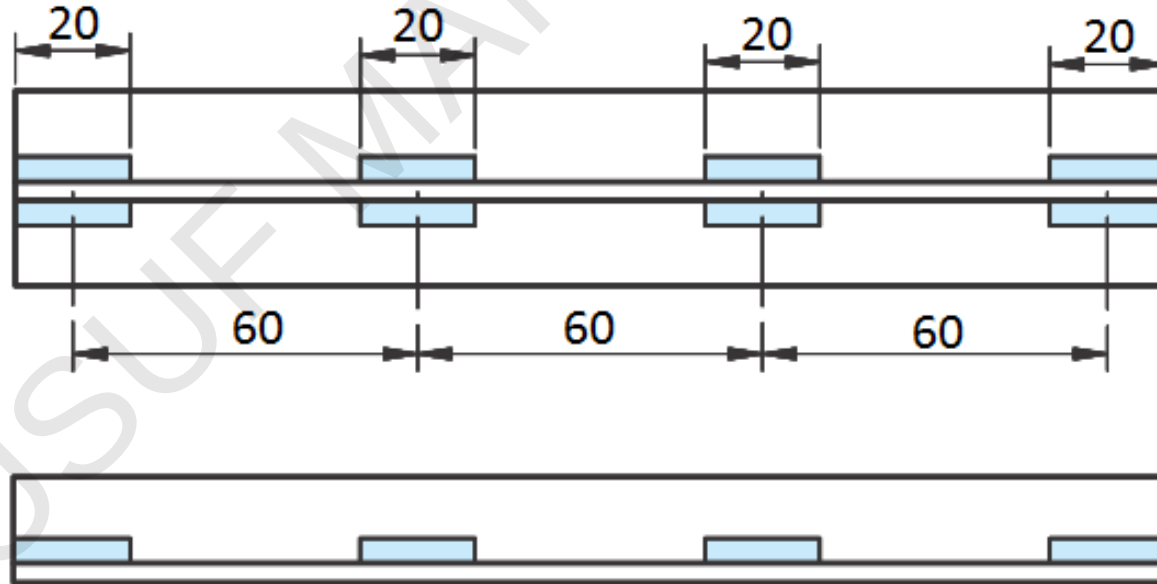
Teknik resimde yukarıdaki gibi gösterilen metod kaynak sembolünün anlamı aşağıdaki gibidir



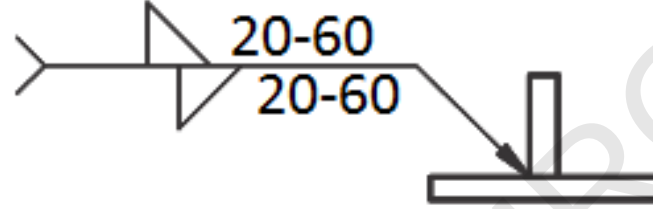
Metod kaynağın teknik resimde gösterilişi



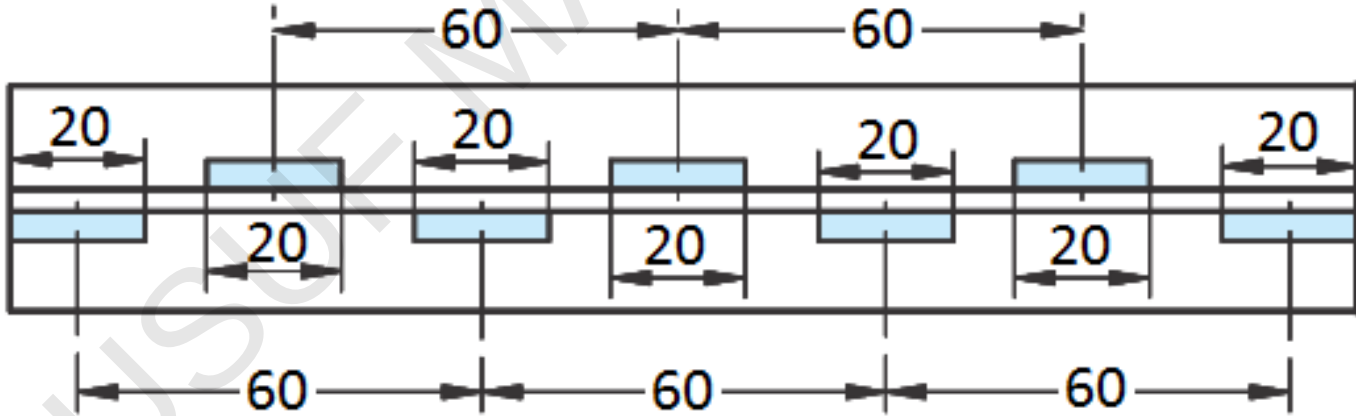
Teknik resimde yukarıdaki gibi gösterilen metod kaynak sembolünün anlamı aşağıdaki gibidir



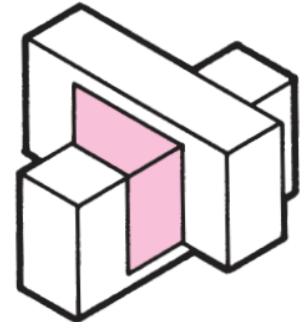
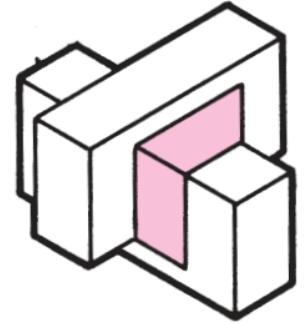
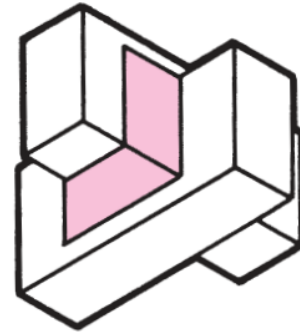
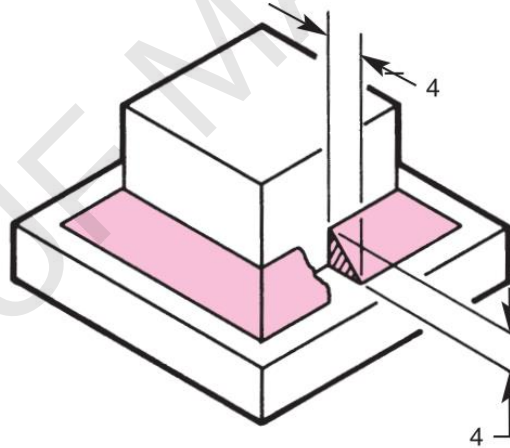
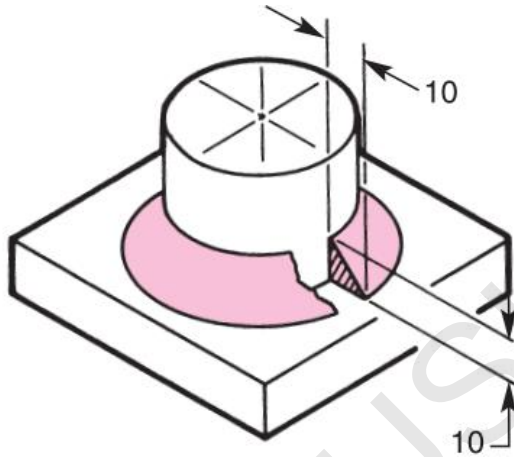
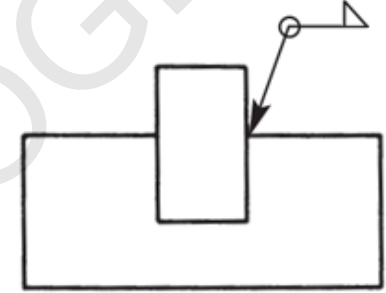
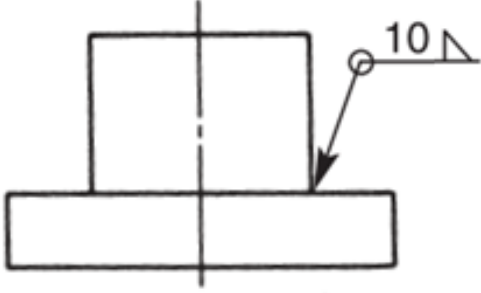
Metod kaynağın teknik resimde gösterilişı



Teknik resimde yukarıdaki gibi gösterilen metod kaynak sembolünün anlamı aşağıdaki gibidir



Çerresel kaynağın teknik resimde gösterilişi



Kaynak Yüzeyi

Tip	Sembol	Örnek	Kaynaklı Hali
Düz	—		
İç Bükey	)		
Dış Bükey	—		

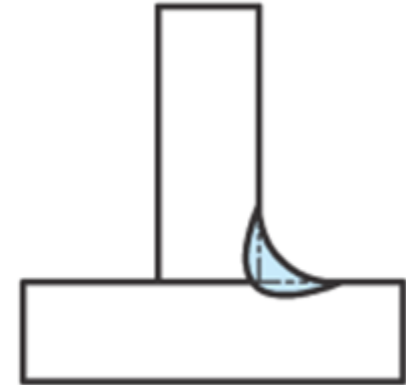
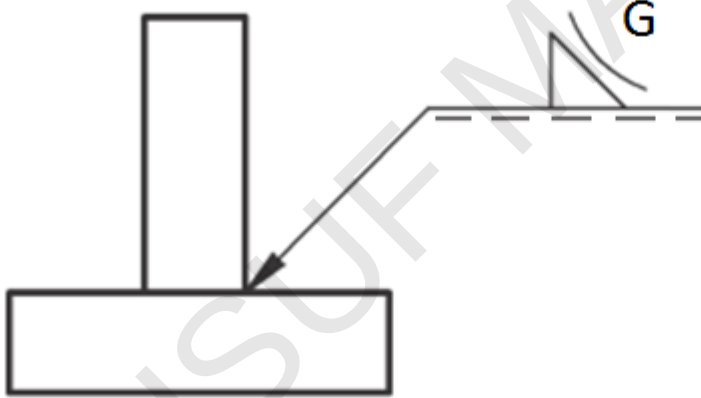
Kaynak Yüzeyi

U:unspecified (herhangi bir metod kullanılabilir)

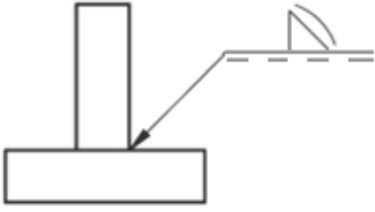
G:grinding (taşlama)

M:machining (frezeleme)

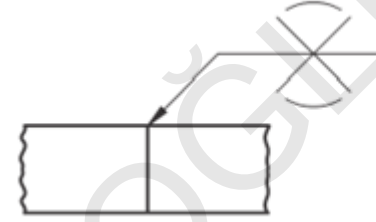
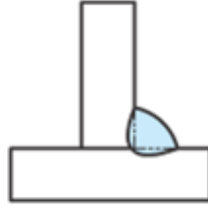
C:chipping (çapak alma)



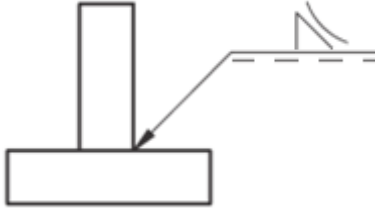
Kaynak Yüzeyi



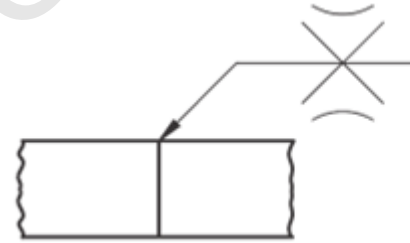
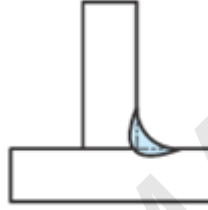
Dış Bükey Kaynak Yüzeyi



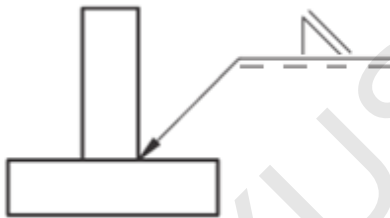
Dış Bükey Kaynak Yüzeyi



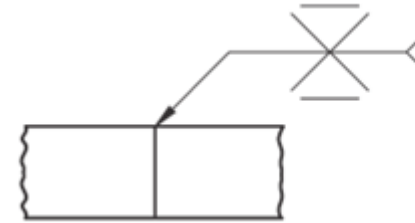
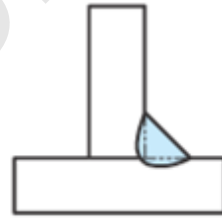
İç Bükey Yüzeyi



İç Bükey Yüzeyi

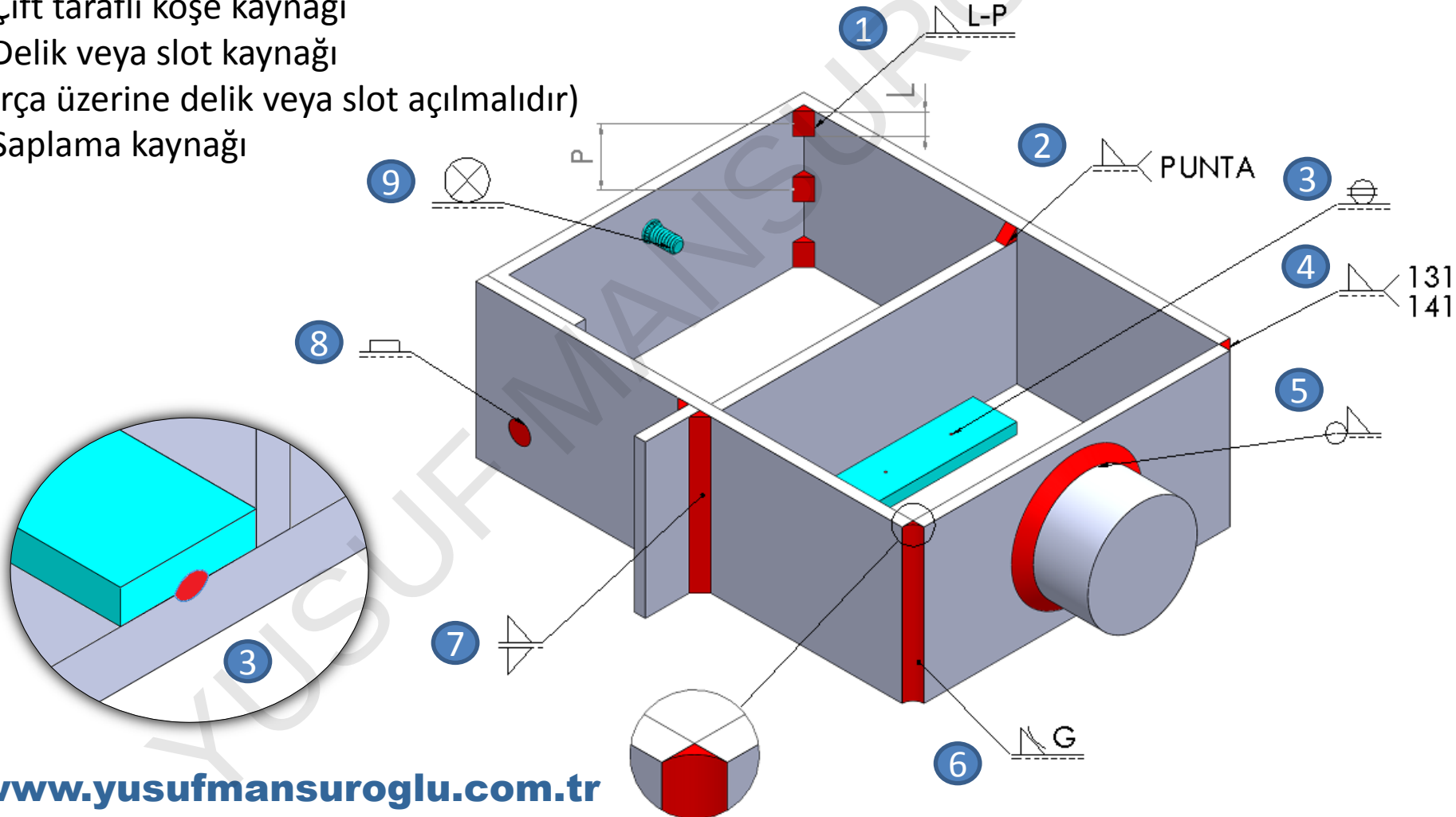


Düz Kaynak Yüzeyi

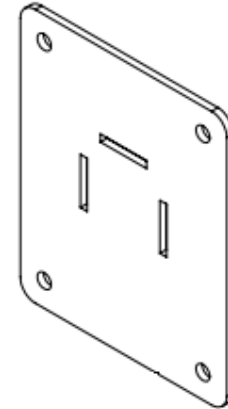
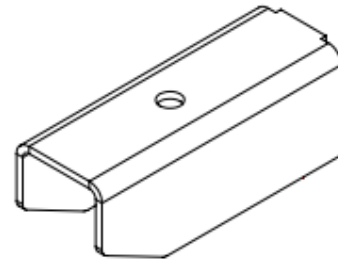
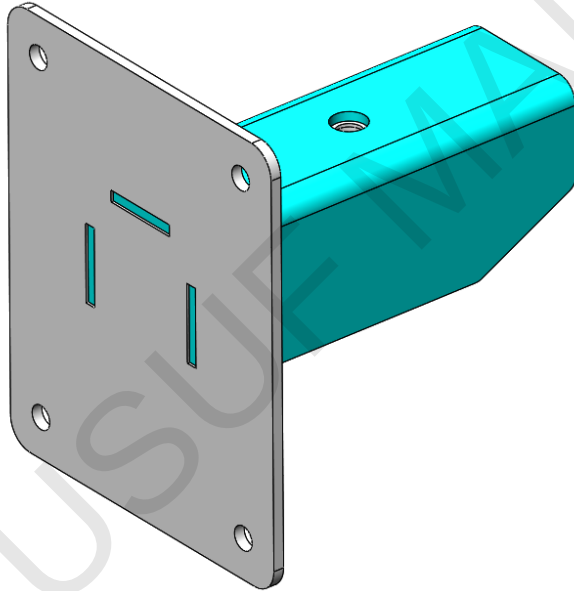
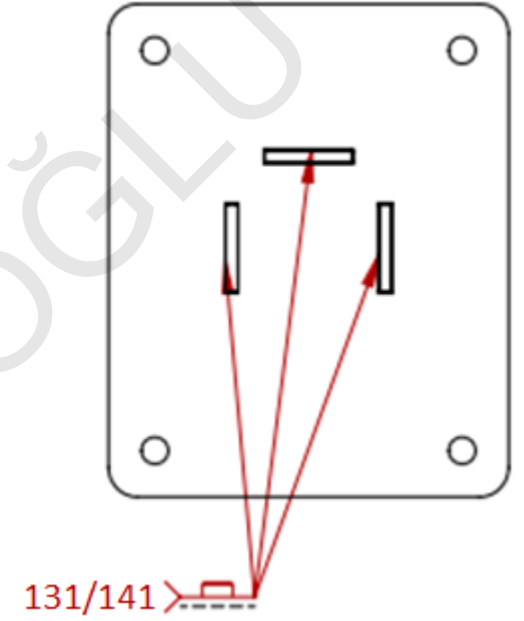
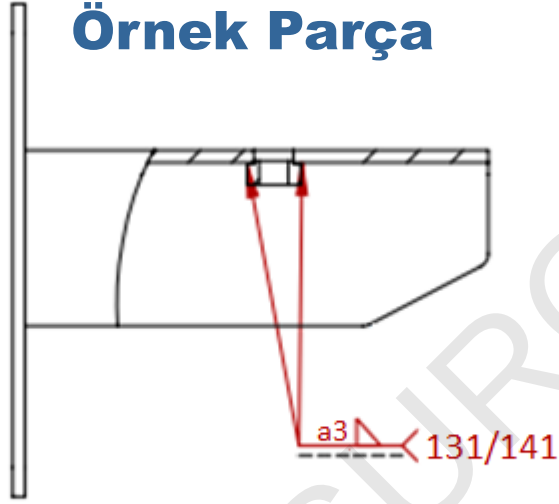
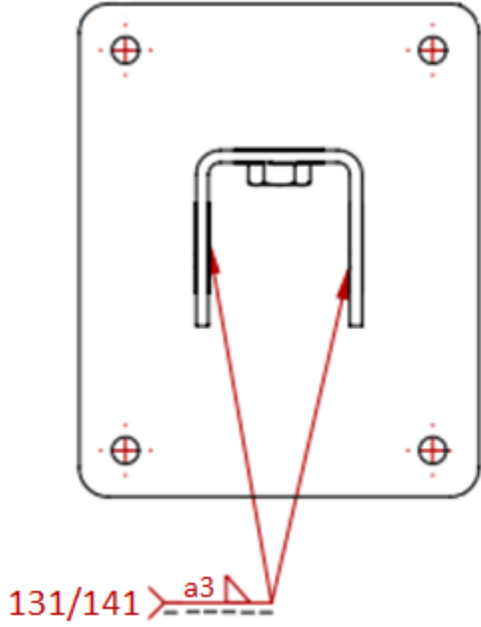


Düz Kaynak Yüzeyi

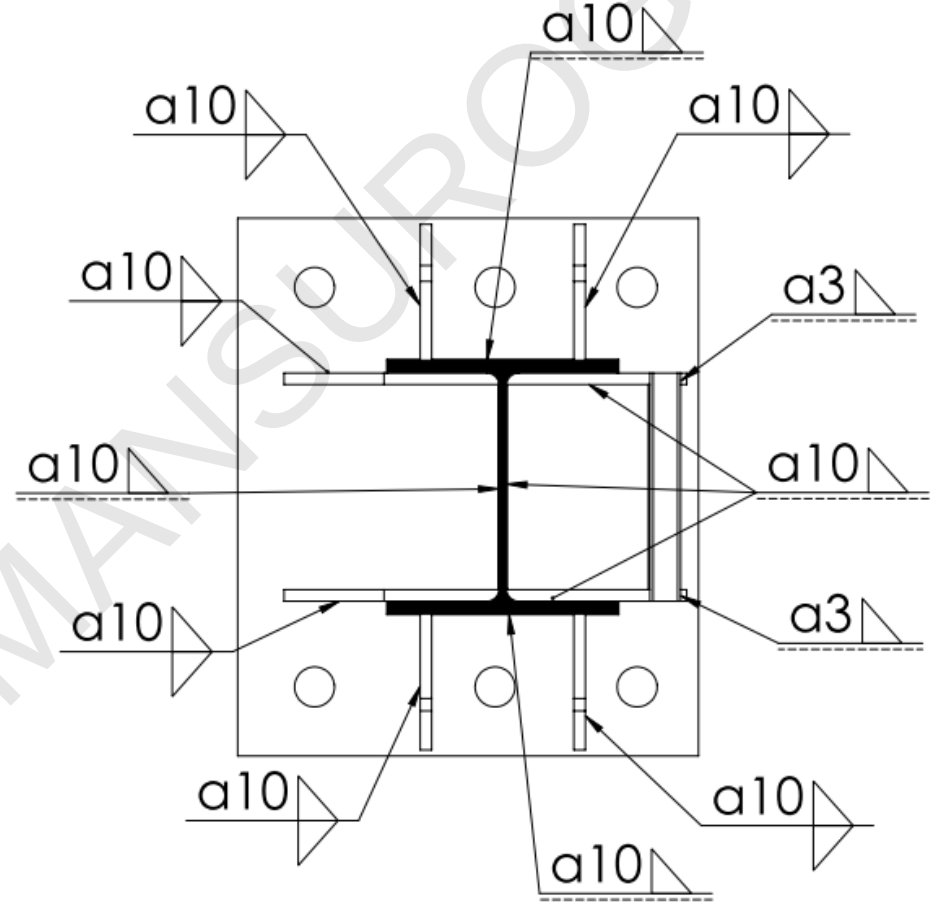
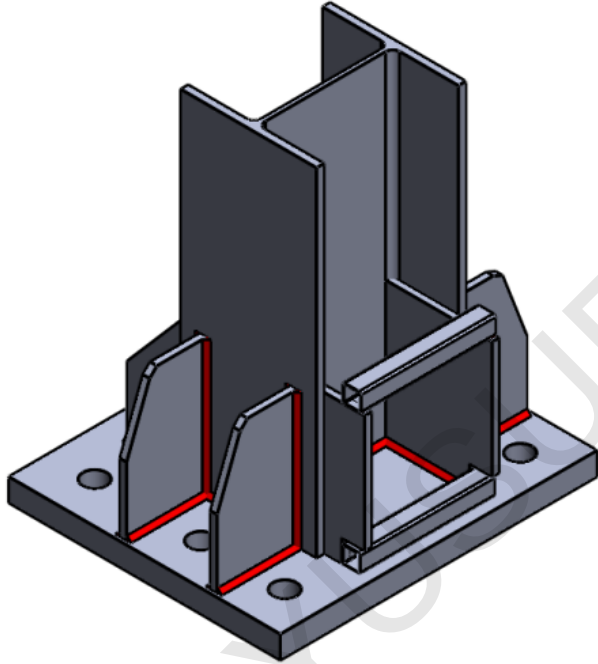
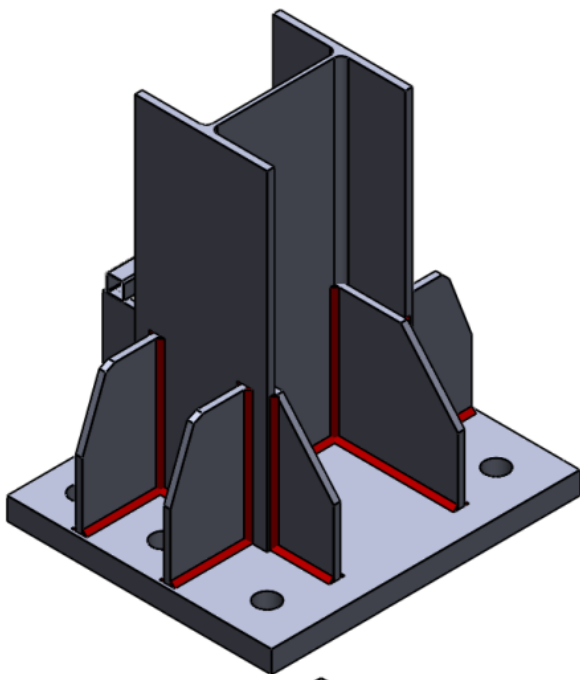
- 1- Kesintili köşe kaynağı L=Kaynak Boyu P=Hatve (Kaynak Boşluğu)
- 2- Sadece punta atılması
- 3- Punta kaynağı
- 4- Tek taraflı köşe kaynağı (MIG veya TIG kaynak yöntemlerinden biri ile)
- 5- Çepeçevre kaynak
- 6- Taşlama ile iç bükey kontür verilen köşe kaynağı
- 7- Çift taraflı köşe kaynağı
- 8- Delik veya slot kaynağı
(parça üzerine delik veya slot açılmalıdır)
- 9- Saplama kaynağı



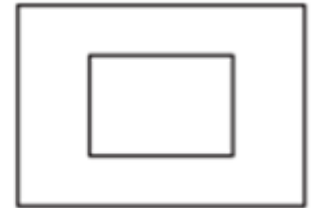
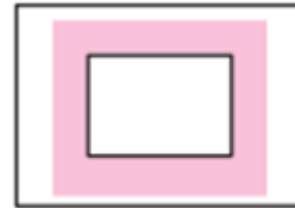
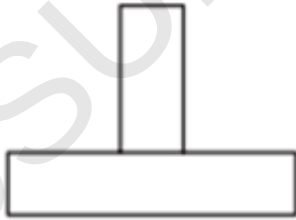
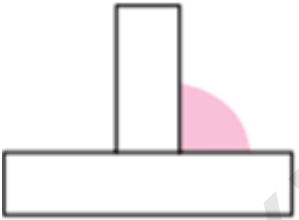
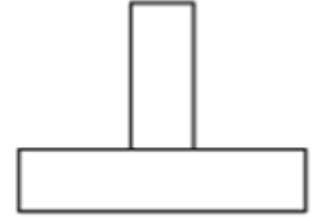
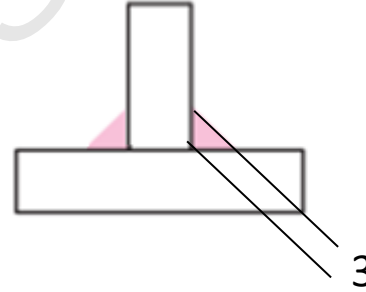
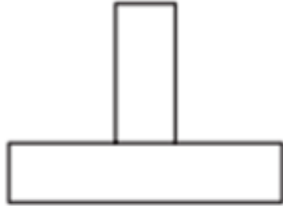
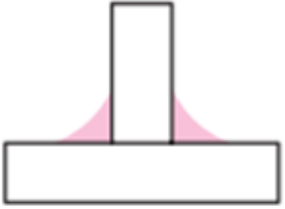
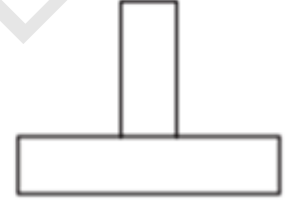
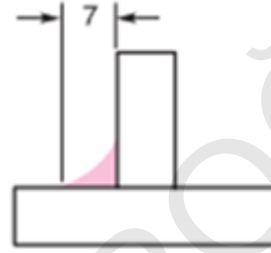
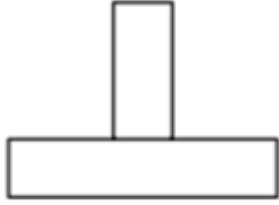
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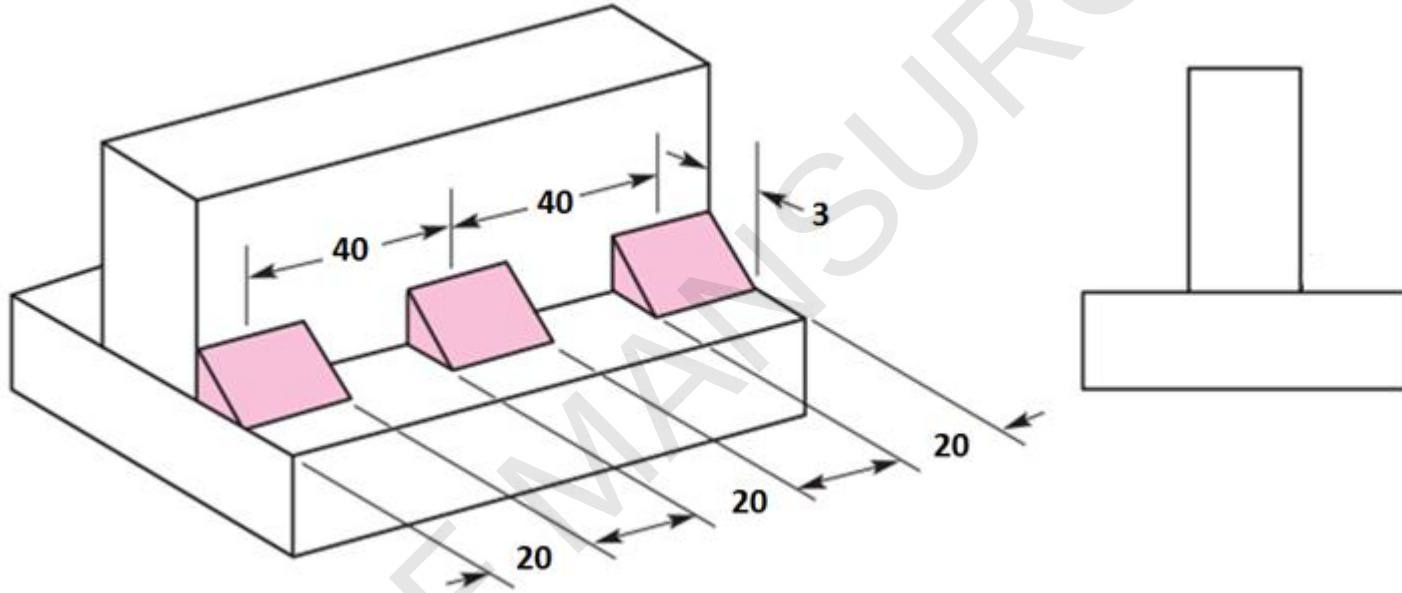
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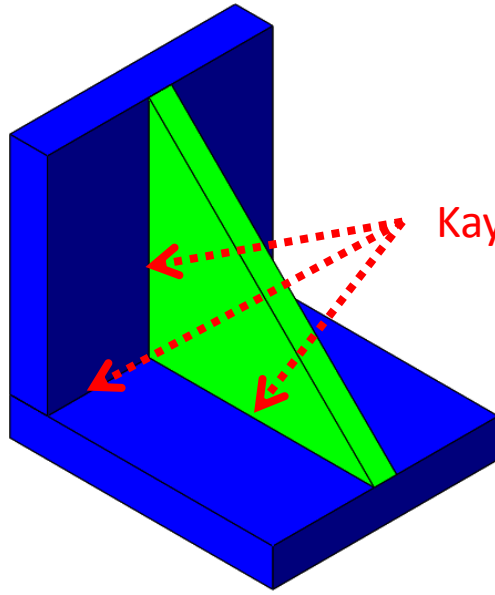
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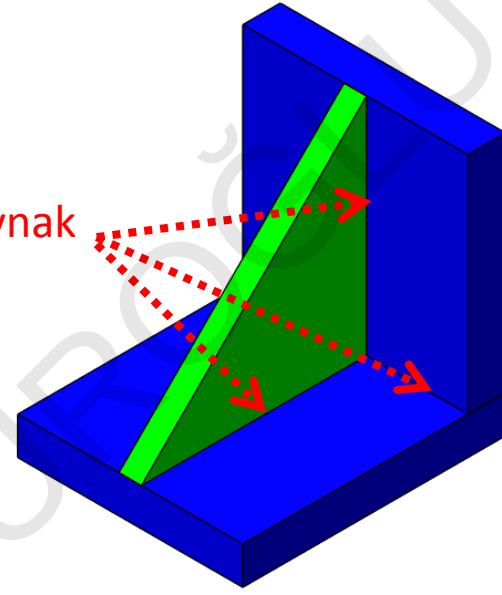
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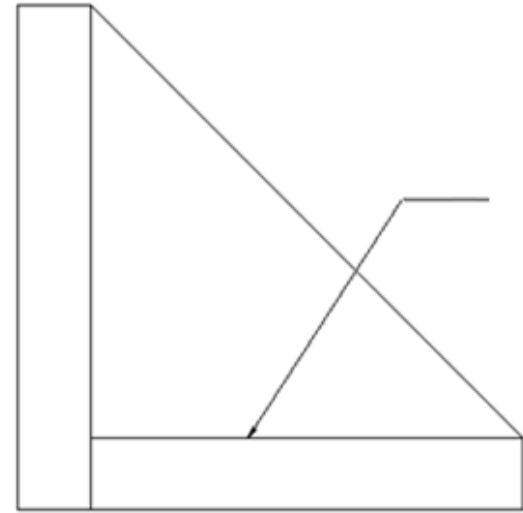
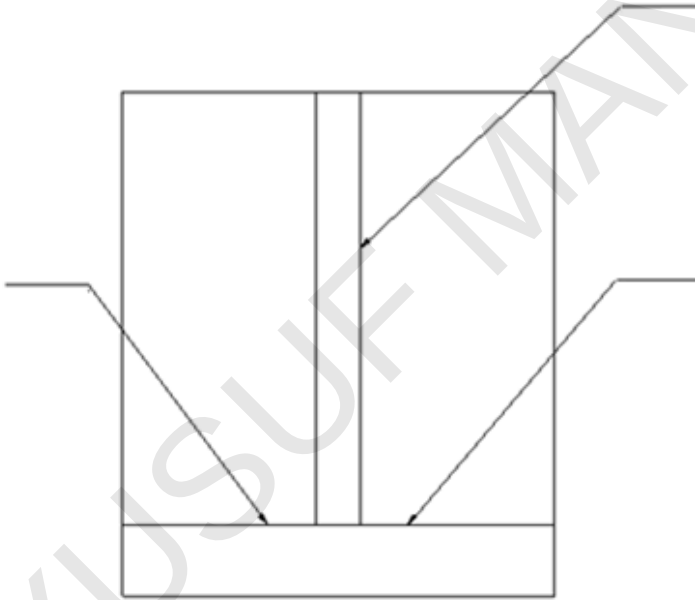
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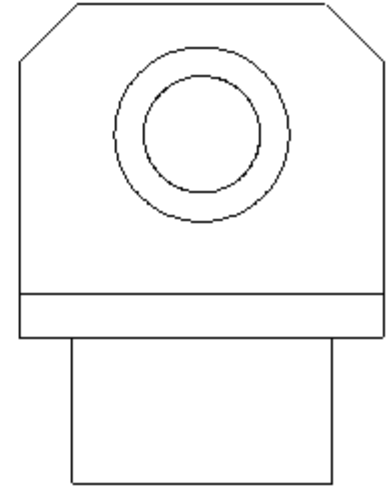
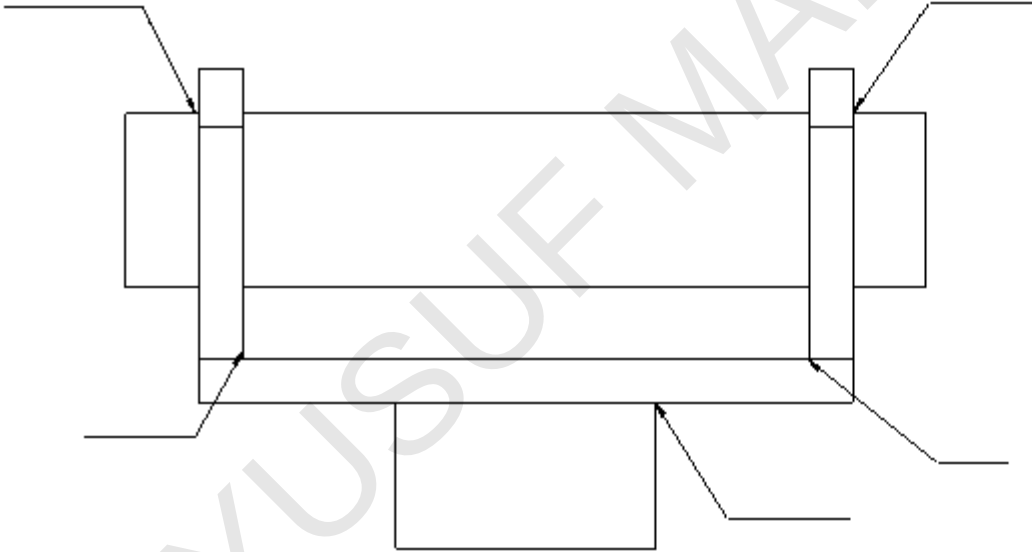
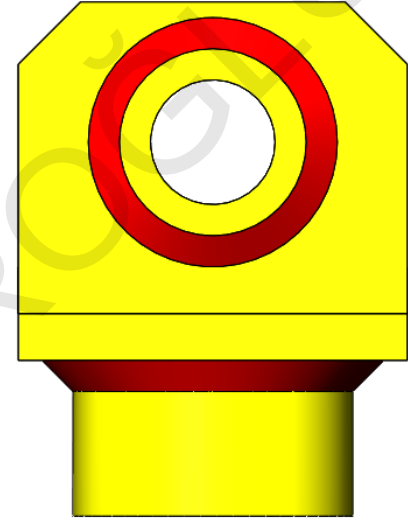
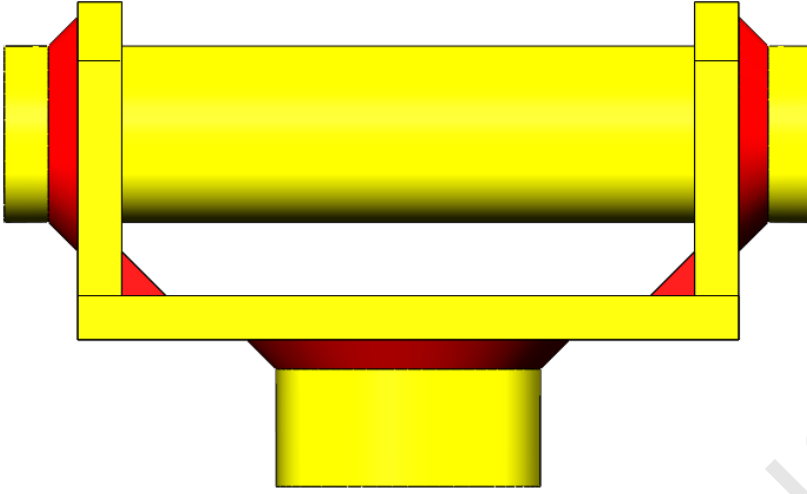
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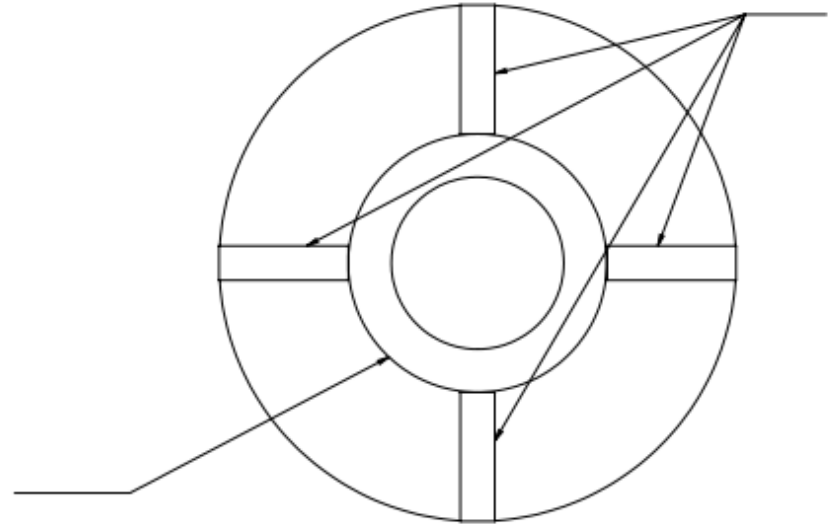
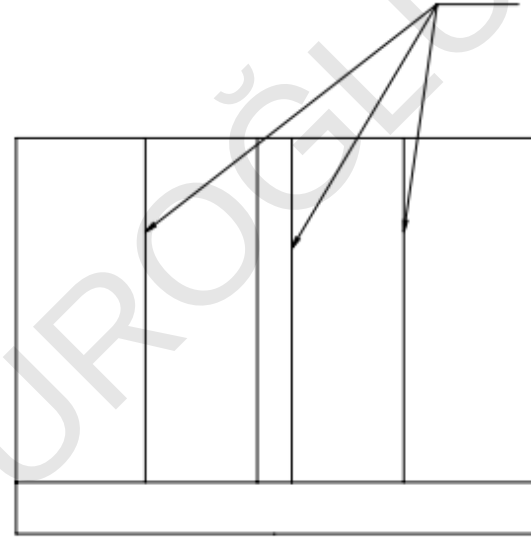
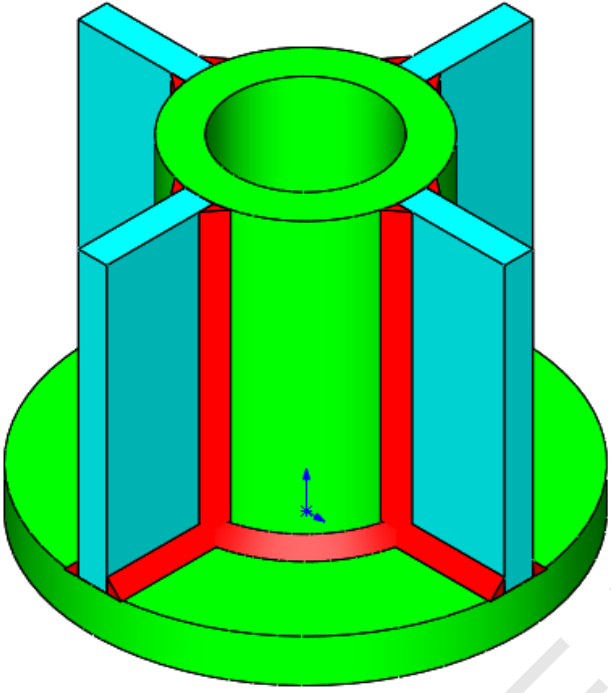
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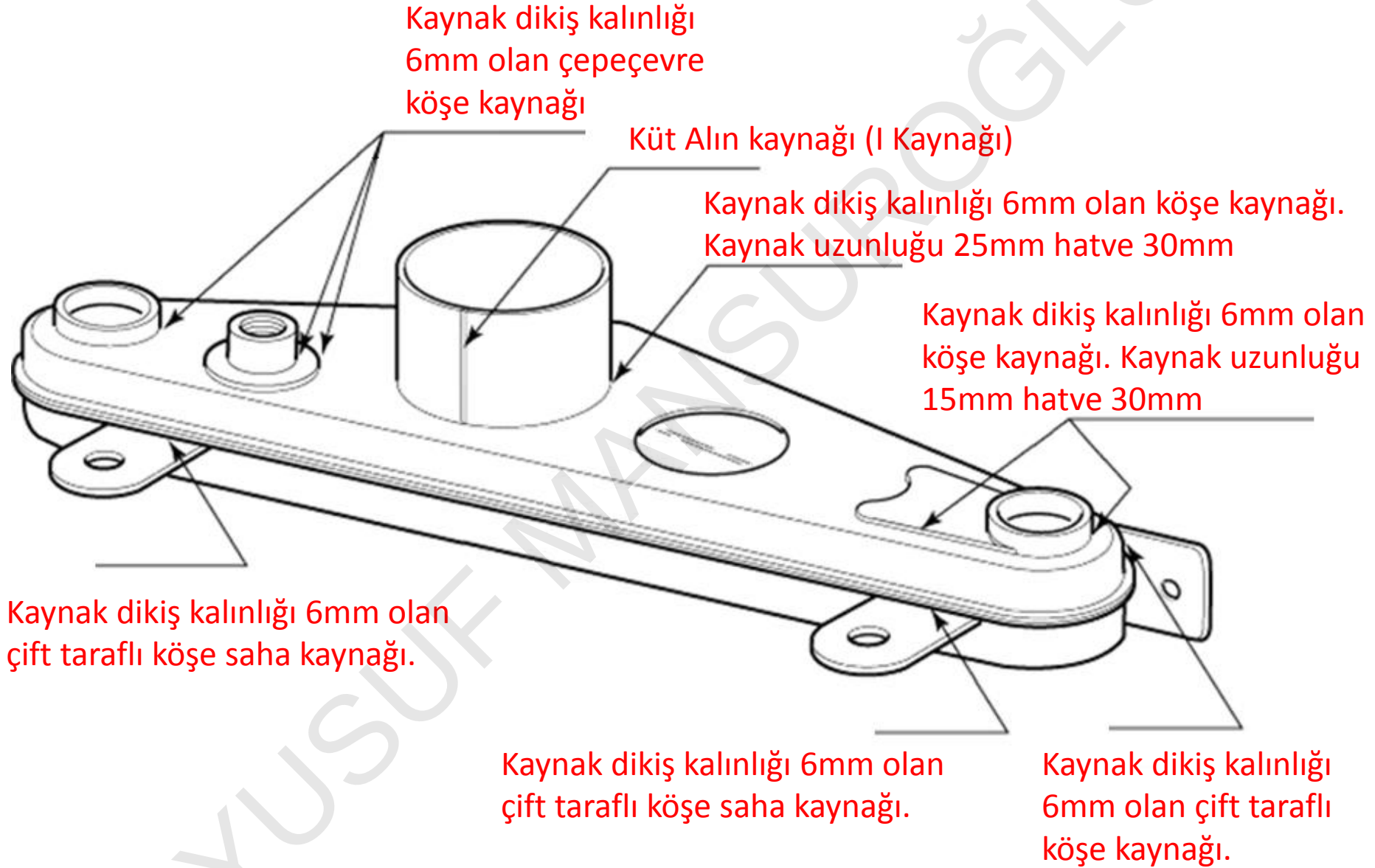
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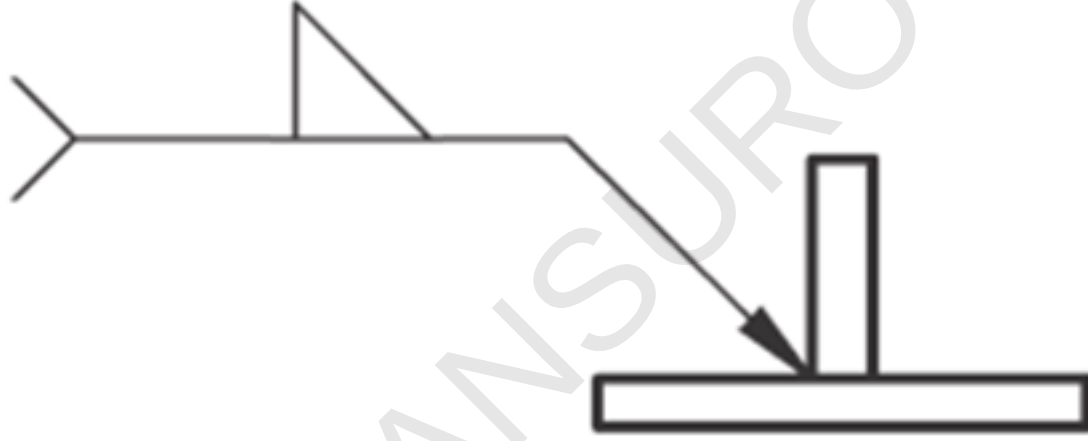
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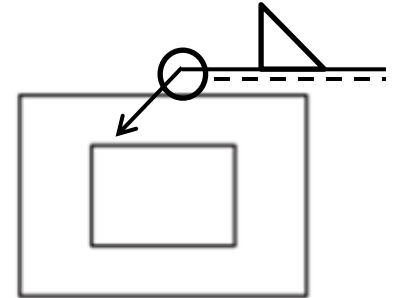
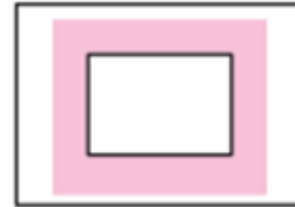
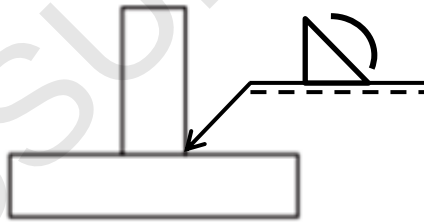
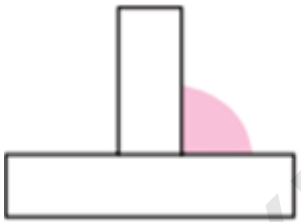
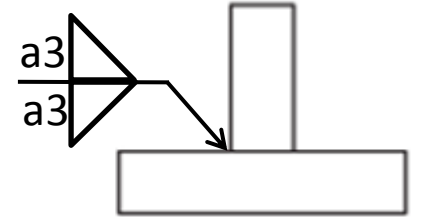
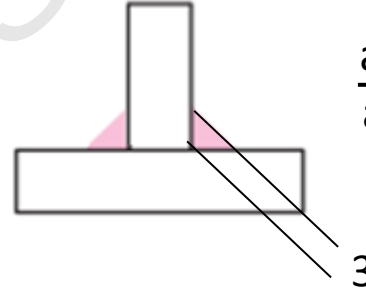
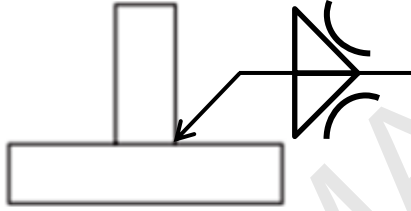
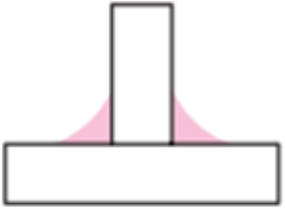
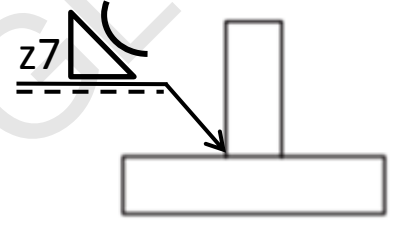
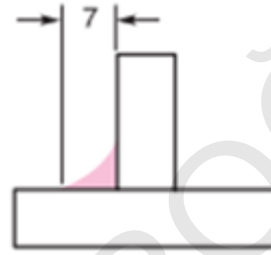
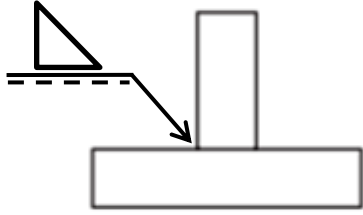


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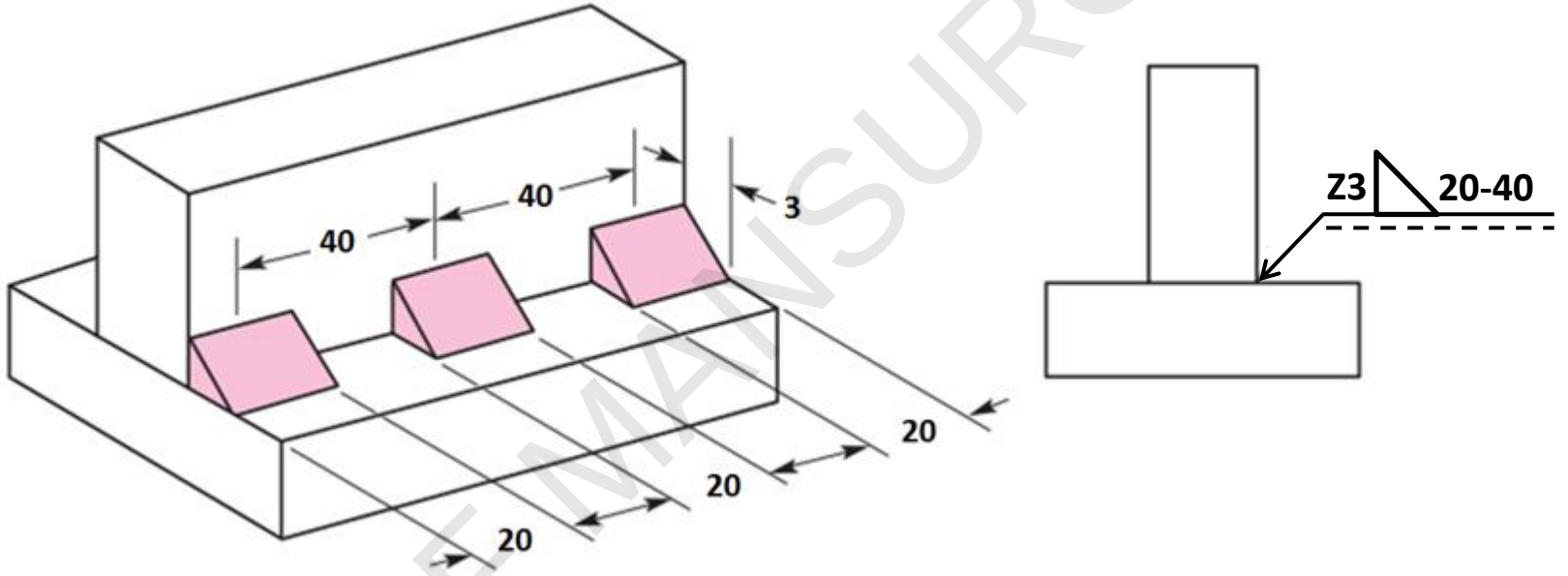


Kaynak sembollerinde üçgenin dik kenarı her zaman sol tarafa bakmalıdır

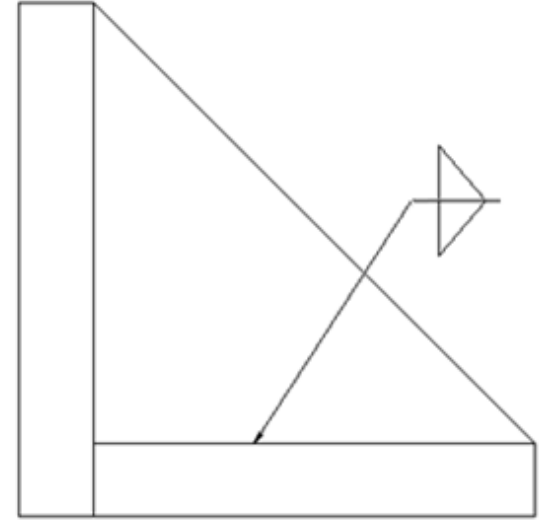
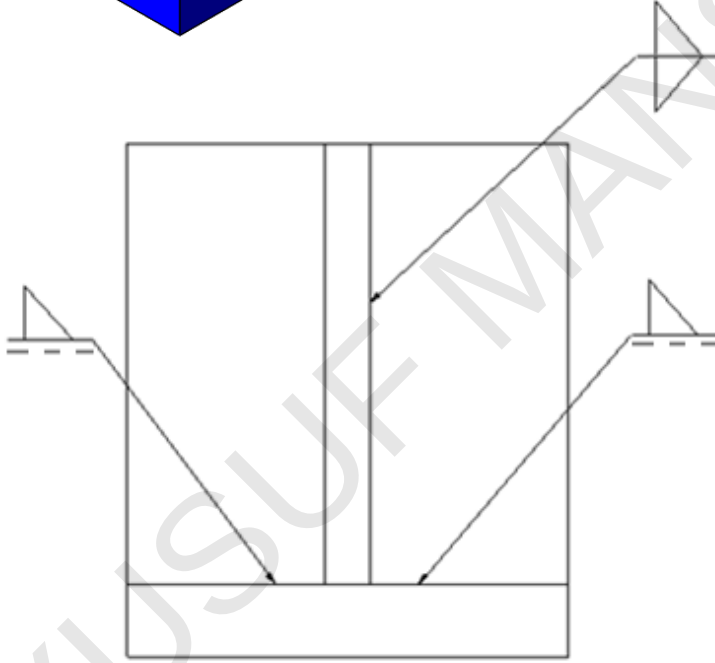
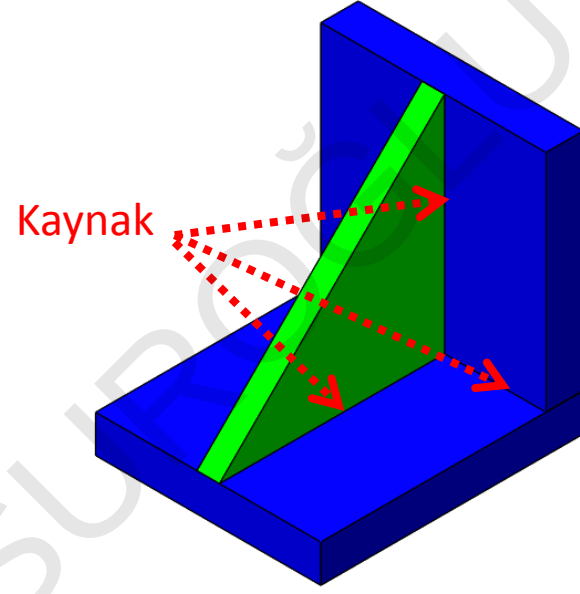
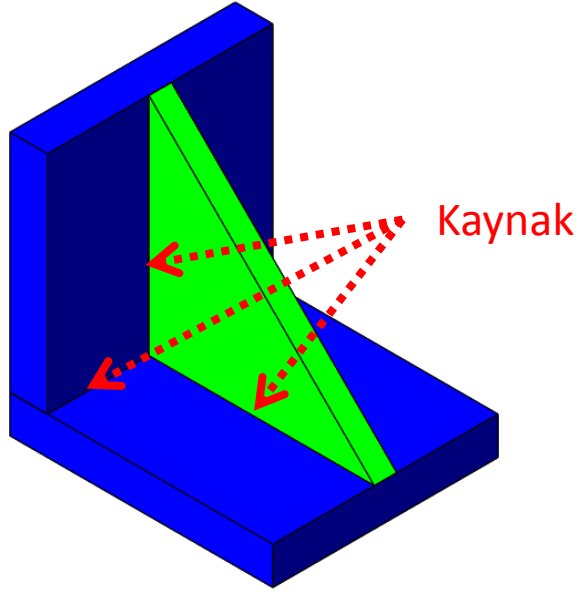
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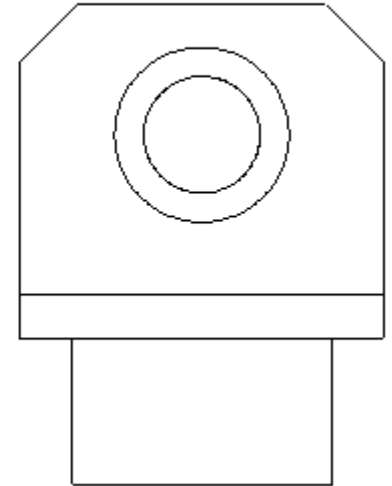
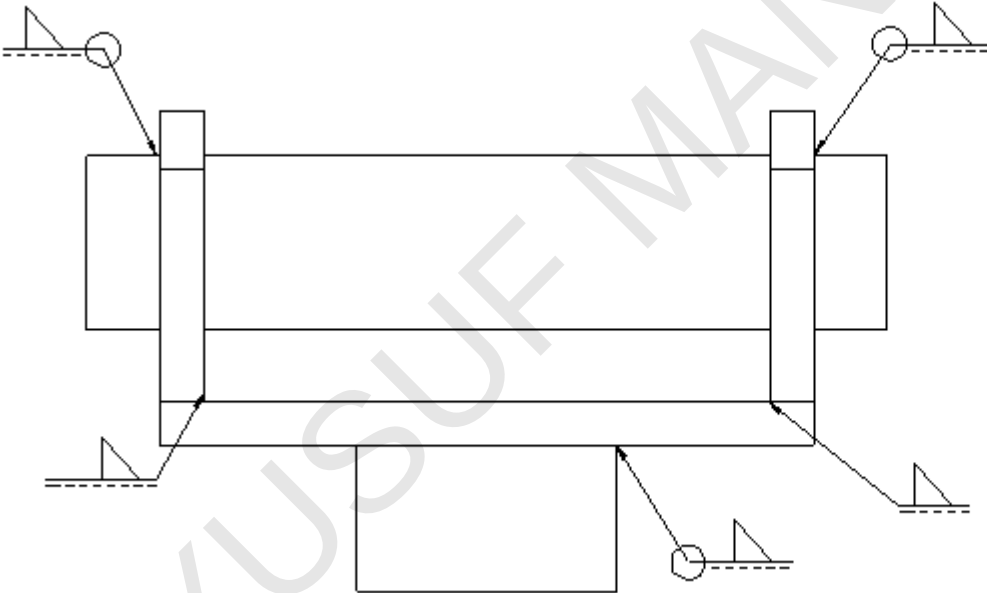
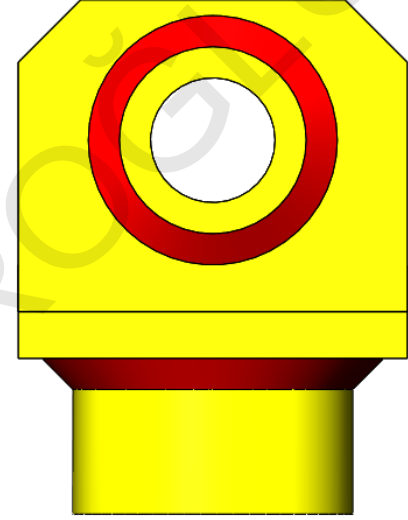
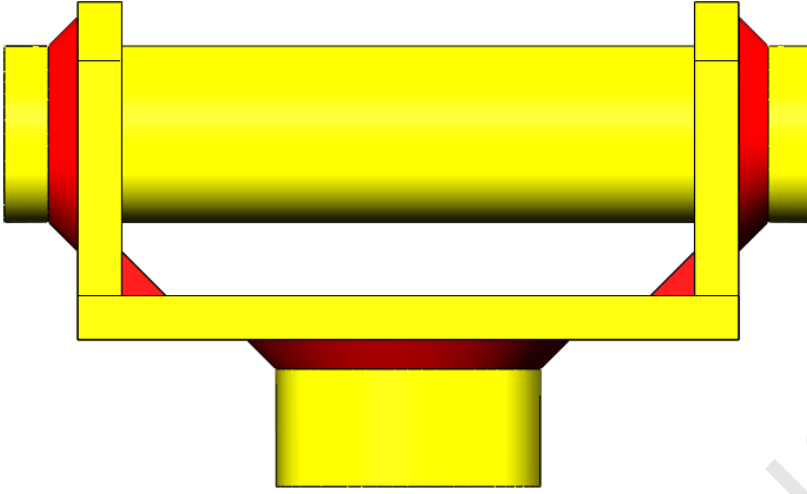
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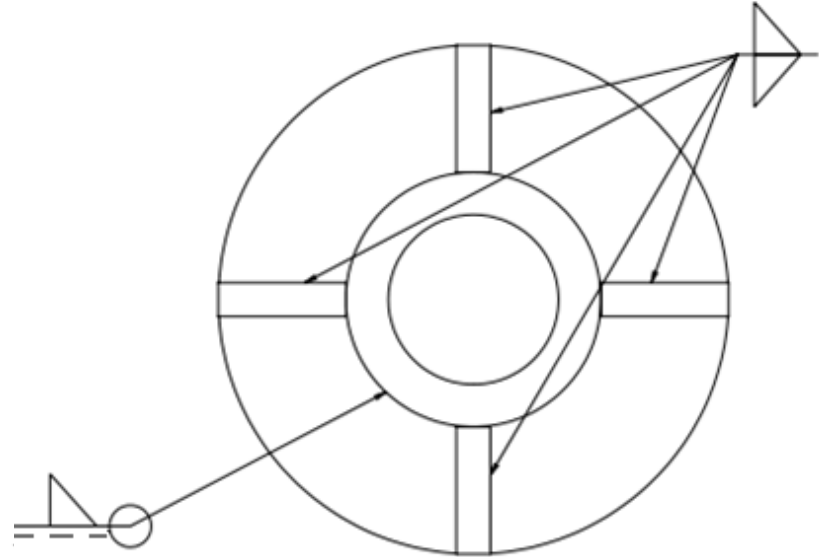
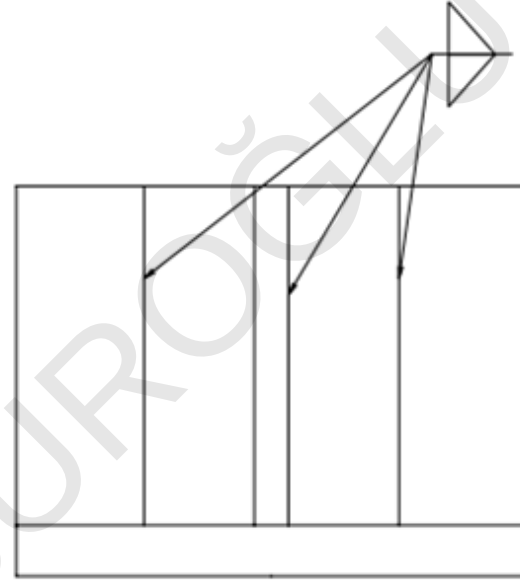
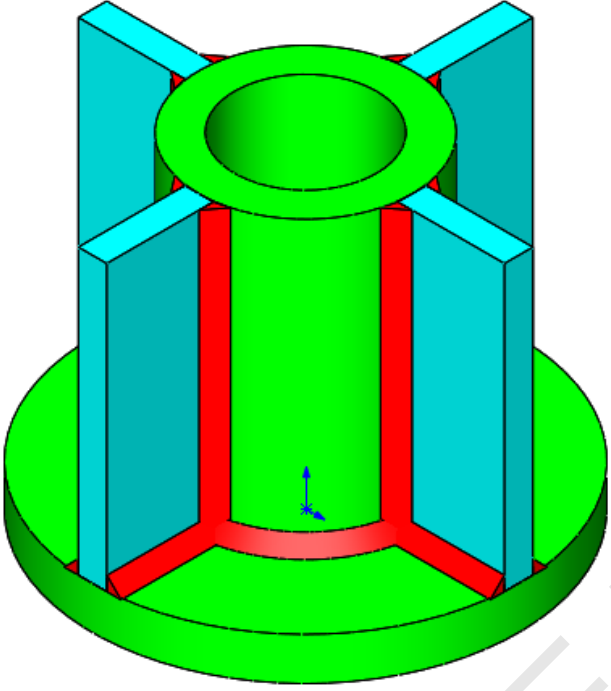
Cevaplar



Cevaplar



Cevaplar



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