cat 1	cat ?	Cat 3	cat 4	cat 5	cat 6	Initial Cost				Life Cycle Cost	
Call I	Udl 2	Cal 3	cat 4	membrane	cato	cat 6		cat 3	cat 6		cat 3
			membrane thickness	attachment method	surface characteristic	level score	comment not recommended, ballast may cause	level score	score	comment not recommended, ballast may cause	level score
				membrane	ballast	-	membrane degradation by leaching plasticizers		-	membrane degradation by leaching plasticizers	
			45 mil	attached membrane		8	approx \$4.00 per sf		8	1.1 multiplier	
				membrane		7	approx \$4.50 per sf not recommended, ballast may cause		8	1.1 multiplier not recommended, ballast may cause	-
				membrane	ballast	-	membrane degradation by leaching plasticizers		-	membrane degradation by leaching plasticizers	
		ЪV	60 mil	attached membrane		8	approx \$4.00 per sf	7.0	8	1.1 multiplier	8.0
				fully adhered membrane		6	approx \$4.50 per sf		8	1.1 multiplier	
	lastic			loose laid membrane	ballast	-	membrane degradation by leaching plasticizers		-	membrane degradation by leaching plasticizers	
Ä	ermop		80 mil	mechanically attached membrane		7	approx \$4.00 per sf		8	1.1 multiplier	
S TYI	ть			fully adhered membrane		6	approx \$4.50 per sf		8	1.1 multiplier	
NONI				loose laid membrane	ballast	-	membrane degradation by leaching plasticizers		-	membrane degradation by leaching plasticizers	
ITUM			45 mil	mechanically attached membrane		8	approx \$4.00 per sf		2	results uncertain at this time	
ION-B		Po		fully adhered membrane		6	approx \$4.50 per sf	6.8	2	results uncertain at this time	2.0
Z		F		loose laid membrane	ballast	-	not recommended, ballast may cause membrane degradation by leaching plasticizers		-	not recommended, ballast may cause membrane degradation by leaching plasticizers	
			60 mil	mechanically attached		7	approx \$4.00 per sf		2	results uncertain at this time	
				fully adhered membrane		6	approx \$4.50 per sf		2	results uncertain at this time	
				loose laid membrane mechanically	ballast	10	approx \$2.50 per sf		6	1.15 multiplier	
	ric		45 mil	attached membrane		10	approx \$3.70 per sf		6	1.15 multiplier	
	stome	EPDM		fully adhered membrane loose laid	holloot	9	approx \$4.00 per sf	9.5	6	1.15 multiplier	6.0
	Elas		60 mil	membrane mechanically	Dallast	0	approx \$2.50 per si		6	1 15 multiplier	
			00111	membrane fully adhered		9	approx \$4.00 per sf		6	1.15 multiplier	
				membrane	flood coat with ballast	5	approx \$4.50 per sf		10	1.1 multiplier	
			3 ply	ply hot, mop appliedcoating 3 approx \$4.50 per sf cap sheet membrane 4 approx \$4.50 per sf		approx \$4.50 per sf approx \$4.50 per sf		10 10	1.1 multiplier 1.1 multiplier		
	ч	halt			flood coat with ballast	4	approx \$4.50 per sf		10	1.1 multiplier	
	BUI	Aspł	4 ply	hot, mop applied	cap sheet membrane	3 3	approx \$4.50 per sf approx \$4.50 per sf	3.2	10 10	1.1 multiplier 1.1 multiplier	10.0
			C - h	h	flood coat with ballast	3	approx \$4.50 per sf		10	1.1 multiplier	
			5 piy	not, mop applied	cap sheet membrane	2	approx \$4.50 per sf		10	1.1 multiplier	
				hot, mop applied base sheet and	cap sheet	2	approv \$5.05 per of		2	1.2 multiplier	
			Single Ply (base sheet plus cap sheet	toch applied cap sheet	membrane	5	арриох фо.25 рег аг		5	1.2 matipilor	
				cold, adhesive applied	cap sheet membrane	2	approx \$5.25 per sf		3		
				hot, mop applied	i						
			Double Ply (base sheet	base/intermedia e sheets and heat welded,	t cap sheet membrane	2	approx \$5.25 per sf		4		
		APP	plus one intermediate ply sheet plus cap	toch applied cap sheet)			2.2			3.7
			sheet	cold, adhesive applied	cap sheet membrane	2	approx \$5.25 per sf		4		
т т				hot, mop applied							
NOUS			Triple Ply (base sheet plus two	base/intermedia e sheets and	t cap sheet	2	approx \$5.25 per sf		4		
ITUMI	umen		intermediate ply sheet plus cap sheet - BUR	toch applied cap sheet							
8	ied Bitt		hybrid)	cold, adhesive applied	cap sheet membrane	2	approx \$5.25 per sf		4		
	-Modif			hot, mop applied	i						
	olymer		Single Ply (base sheet plus cap	heat welded, toch applied cap	cap sheet membrane	3	approx \$5.25 per sf		4		
	ď.		sheet	cold, adhesive	cap sheet	2	approx \$5.25 per sf		4		
				applied	membrane						
			Double Ply (base sheet	hot, mop applied base/intermedia e sheets and	t cap sheet	3	annrox \$5.25 ner ef		4		
		SBS	plus one intermediate ply	heat welded, toch applied cap sheet	membrane	0		2.3			4.0
			sheet	cold, adhesive applied	cap sheet membrane	2	approx \$5.25 per sf		4		
				hot, mop applied	i						1
			Triple Ply (base sheet plus two	base/intermedia e sheets and heat welded,	t cap sheet membrane	2	approx \$5.25 per sf		4		
			sheet plus cap sheet - BUR	toch applied cap sheet)						
			Hyprid)	cold, adhesive applied	cap sheet membrane	2	approx \$5.25 per sf		4	1.2 multiplier	
		L	L						L		1

			RANK - Cate	gory	Level 3		
		Initial Cost				Life Cycle Cost	
Rank	Туре		score	Rank	Туре		SCORE
1	EPDM		9.5	1	Asphalt		10.0
2	PVC		7.0	2	PVC		8.0
3	TPO		6.8	3	EPDM		6.0
4	Asphalt		3.2	4	SBS		4.0
5	SBS		2.3	5	APP		3.7

6 APP 2.2	6 TPO 2.0
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								T	T (1)		PERFORMANCE						
cat1 c	at2 ca	at 3	cat 4	cat 5	cat 6	Historical			Traffic resistance		Puncture resistance	1	Chemical resistance	1		Fatigue resistance	1
			membrane	membrane attachment	surface	cat 6 level	cat 3 leve	cat e	S I e comment	cat 3 level	cat 6 level	cat 3 level	cat 6 level	cat 3 level	cat 6 level	comment	cat 3 level
			UNICKINESS	loose laid	ballast	not recommended, ballast may cau - membrane degradation by leaching	se I	-	not recommended, ballast may cause membrane degradation by leaching	SCOLE	not recommended, ballast may cause - membrane degradation by leaching	SCOLE	not recommended, ballast may cause - membrane degradation by leaching	SCOLE	r - r	not recommended, ballast may cause membrane degradation by leaching	SCOLE
			45 mil	mechanically		plasticizers		5	plasticizers		plasticizers		plasticizers		F	plasticizers	
				membrane fully adhered		6 20 years		5	fair		5 foir		6 good		5 (
		F		membrane loose laid	hallast	not recommended, ballast may cau	se		not recommended, ballast may cause		not recommended, ballast may cause	-	not recommended, ballast may cause		r	not recommended, ballast may cause	
		ç	60 mil	membrane		plasticizers	6.0		plasticizers	5.3	plasticizers	5.3	plasticizers	6.0	F	vlasticizers	5.3
				attached membrane fully adhered		6 20 years		5	tair fals		5 fair		6 good		5 0	Jood	
		-		membrane loose laid	hallact	not recommended, ballast may cau	se	5	not recommended, ballast may cause		not recommended, ballast may cause	-	not recommended, ballast may cause		y c r	not recommended, ballast may cause	
			80 mil	membrane mechanically	buildst	plasticizers	'		plasticizers		plasticizers		plasticizers		F	asticizers	
	plasti			attached membrane fully adhered		6 20 years		6	fair		6 fair		6 good		6 0	Jood	
	hermo			membrane loose laid	halloat	6 20 years not recommended, ballast may cau	se	6	not recommended, ballast may cause		6 fair not recommended, ballast may cause		6 good not recommended, ballast may cause		6 Q	jood not recommended, ballast may cause	
H				membrane mechanically	buildst	plasticizers	' artec		plasticizers		plasticizers		plasticizers		F.	asticizers	
YT SL			45 mil	attached membrane		2 in early 1990's with limited succes, formulations improved in late 1990'	s.	3	poor, must use walk pads		5 fair		5 fair		5 g	jood	
NONI				fully adhered		15 year history, TPO roofing use st 2 in early 1990's with limited succes,	artec	3	poor, must use walk pads		5 fair		5 fair		5 g	good	
BITU		тро		loose laid		not recommended, ballast may cau	s. se 2.0		not recommended, ballast may cause	3.0	not recommended, ballast may cause	5.0	not recommended, ballast may cause	5.0	r	not recommended, ballast may cause	5.0
NON				membrane	Dallast	 membrane degradation by leaching plasticizers 			plasticizers		 memorane degradation by leaching plasticizers 		 memorane degradation by leaching plasticizers 		- r	vlasticizers	
			60 mil	attached membrane		 2 in early 1990's with limited succes, formulations improved in late 1990' 	s.	3	poor, must use walk pads		5 fair		5 fair		5 g	Jood	
				fully adhered		15 year history, TPO roofing use st 2 in early 1990's with limited succes,	artec	3	poor, must use walk pads		5 fair		5 fair		5 (good	
				membrane		formulations improved in late 1990'	s.	-					EPDM is susceptible to degradation			nood but needs to be reinforced and	
				loose laid membrane	ballast	9 40 year history		3	fair, consider roof pavers		6 consider using roof pavers		3 when exposed to oils (including kitchen venting)		6 p	reduce shrinkage problems	
			45 mil	mechanically attached		8 40 year history		2	poor, must use walk pads		5 good puncture resistnace		EPDM is susceptible to degradation when exposed to oils (including kitchen vention)		6 ç	good, but needs to be reinforced	
	eric	_		fully adhered		8 40 year history		2	poor, must use walk pads		5 good puncture resistnace		EPDM is susceptible to degradation when exposed to oils (including kitchen		6 g	good, but needs to be reinforced	
	lastom	EPDN		loose laid			8.3			2.7		5.7	EPDM is susceptible to degradation	2.3		good but needs to be reinforced and	6.5
	Ξ			membrane	ballast	9 40 year history		4	fair, consider roof pavers		6 consider using roof pavers		3 when exposed to oils (including kitchen venting)		7 p r	verimeter mechanically fastened to educe shrinkage problems	
			60 mil	mechanically attached membrane		8 40 year history		2	poor, must use walk pads		6 good puncture resistnace		 2 when exposed to oils (including kitchen venting) 		7 ç	jood, but needs to be reinforced	
				fully adhered membrane		8 40 year history		3	poor, must use walk pads		6 good puncture resistnace		EPDM is susceptible to degradation when exposed to oils (including kitchen venting)		7 ç	good, but needs to be reinforced	
					flood coat with ballast	10 Over 80 year history - one of the ol long standing track record of succe	dest ss	8	good		9 very good		6 good		2 p	rooc	
			3 ply	hot, mop applie	dcoating	Over 80 year history - one of the ollong standing track record of succe	dest ss	8	good		9 very good		6 good		2 p	rooc	
					cap sheet	Over 80 year history - one of the ol	dest	9	very good with cap sheet		9 very good		6 good		2 p	poor	
		ŀ			flood coat with	10 Over 80 year history - one of the ol	dest	8	nood		excellent, redundancy in waterproofing		7 good		2 1	poor	
	~	ohalt	4	h	ballast	Over 80 year history - one of the ol	dest 40.0				excellent, redundancy in waterproofing	0.7					
	B	Asp	4 ріу	hot, mop applied coating cap sheet membran- flood coat ballast	dcoating	10 long standing track record of succe	ss 10.0	8	gooa	8.3	10 system is inherent	9 9.7 ng	/ good	6.7	2 f	loor	2.3
		-			membrane	10 long standing track record of succe	SS	9	very good with cap sheet		10 system is inherent		7 good		2 p	JOOR	
					flood coat with ballast	10 Over 80 year history - one of the ol long standing track record of succe	dest ss	8	good		10 excellent, redundancy in waterproofing system is inherent		7 good	-	3 p	1000	
			5 ply	hot, mop applie	dcaoting	10 Over 80 year history - one of the ol long standing track record of succe	dest ss	8	good		10 excellent, redundancy in waterproofing system is inherent		7 good		3 р	xoor	
					cap sheet membrane	10 Over 80 year history - one of the ol long standing track record of succe	dest ss	9	very good with cap sheet		10 excellent, redundancy in waterproofing system is inherent		7 good		3 р	boor	
				hot, mop applie base sheet and	cap sheet				very good, especially with granular cap		good, especially with granular cap shee	1				very good, the APP is a high rubber	
			Single Ply (ba sheet plus ca	heat welded, se toch applied ca p sheet	p	3 15 years		9	sheet membrane		7 membrane		6 good		9 (r	Consider polyester scrim sheets to allow movement	v
			sheet	cold, adhesive	cap sheet	4		9	very good, especially with granular cap		7 good, especially with granular cap shee	8	6 good		9 0	/ery good, the APP is a high rubber content and can handle movements.	
		-		applied	membrane				sheet membrane		membrane	-	- 5	-	- (Consider polyester scrim sheets to allow novement	
				hot, mop applie base/intermedia	at				eventions, consolelly with grouping con-		you good consolative with groups con-				e	excellent, the APP is a high rubber	
YPE			(base sheet plus one	heat welded, toch applied ca	membrane p	4		10	sheet membrane		sheet membrane		6 good		10 (Consider polyester scrim sheets to allow novement	v
US T		APP	sheet plus ca sheet	py sneet			3.8			9.7		7.7		6.3	é	excellent, the APP is a high rubber	9.7
DNIMU				cold, adhesive applied	cap sheet membrane	4		10	excellent, especially with granular cap sheet membrane		8 very good, especially with gmaular cap sheet membrane		6 good		10	content and can handle movements. Consider polyester scrim sheets to allow movement	v
BITL				hot, mop applie	d												
	_		Triple Ply (ba sheet plus tw	base/intermedia se e sheets and o heat welded,	at cap sheet membrane	4		10	excellent, especially with granular cap sheet membrane		8 very good, especially with gmaular cap sheet membrane		7 good		10	xcellent, the APP is a high rubber content and can handle movements. Consider polyester scrim sheets to allov	v
	itumer		intermediate p sheet plus ca sheet - BUR	ply toch applied ca p sheet	þ										r	novement	
	ified B		hybrid)	cold, adhesive	cap sheet	4		10	excellent, especially with granular cap		very good, especially with gmaular cap		7 good		10	excellent, the APP is a high rubber content and can handle movements.	
	r-Modi			applied	membrane				sneet membrane		sheet membrane		-		r	consider polyester scrim sheets to allow novement	v
	olymei		Single Ply (ba	hot, mop applie base sheet and heat welded,	cap sheet membrane	4		9	very good, especially with granular cap sheet membrane		6 good, especially with granular cap shee membrane	9	4 fair		2	Can be poor since the there is no minimum percentage of polymer	
	٩,		sheet plus ca sheet	^{be} toch applied ca ^{IP} sheet	p				Sheet memorane		membrane						
				cold, adhesive applied	cap sheet membrane	4		9	very good, especially with granular cap sheet membrane		6 good, especially with granular cap shee membrane	9	4 fair		2 r	Can be poor since the there is no minimum percentage of polymer	
				hot, mop applie	id at												
			Double Ply (base sheet plus one	e sheets and heat welded,	cap sheet membrane	4		10	excellent, especially with granular cap sheet membrane		6 very good, especially with granular cap sheet membrane		4 fair		2 r	Can be poor since the there is no ninimum percentage of polymer	
		SBS	intermediate p sheet plus ca sheet	sheet	۲		4.0			10.0		6.0		4.0			2.5
				cold, adhesive applied	cap sheet membrane	4		10	excellent, especially with granular cap sheet membrane		6 very good, especially with granular cap sheet membrane		4 fair		2 r	Can be poor since the there is no ninimum percentage of polymer	
		ĺ		hot, mop applie	id at							1					1
			Triple Ply (bas sheet plus tw intermediate	e sheets and heat welded,	cap sheet membrane	4		10	excellent, especially with granular cap sheet membrane		6 very good, especially with granular cap sheet membrane		4 fair		з (Can be poor since the there is no ninimum percentage of polymer	
			sheet plus ca sheet - BUR hybrid)	p sheet	۲												
			. iyonuj	cold, adhesive applied	cap sheet membrane	4 15 years		10	excellent, especially with granular cap sheet membrane		6 very good, especially with granular cap sheet membrane		4 fair		з (Can be poor since the there is no minimum percentage of polymer	

							RAN	NK - Category Level 3							
		Historical			Traffic resistance			Puncture resistance		Chemical resist	lance			Fatigue resistance	
Ra	nk Type	score	Rank	Туре	score	Rank	: Туре	score	Rar	ink Type	score	Ra	ink Type		score
1	Asphalt	10.0	1	SBS	10.0	1	Asphalt	9.7	1	Asphalt	6.7	1	APP		9.7
2	EPDM	8.3	2	APP	9.7	2	APP	7.7	2	APP	6.3	2	EPDM		6.5
3	PVC	6.0	3	Asphalt	8.3	3	SBS	6.0	3	8 PVC	6.0	3	PVC		5.3
4	SBS	4.0	4	PVC	5.3	4	EPDM	5.7	4	TPO	5.0	4	TPO		5.0
5	APP	3.8	5	TPO	3.0	5	PVC	5.3	5	5 SBS	4.0	5	SBS		2.5
6	TPO	2.0	6	EPDM	2.7	6	TPO	5.0	6	5 EPDM	2.3	6	Asphalt		2.3

	ıt1 cat2 cat3 cat4 cat5 cat6						Expected Life	Warranty			
cat 1	cat 2	cat 3	cat 4	cat 5 membrane	cat 6	cat P		cat 3	Cat 6		cat 3
			membrane thickness	attachment method	surface characteristic	level	comment	level score	level	comment	level score
				loose laid membrane	ballast	-	membrane degradation by leaching plasticizers		-	membrane degradation by leaching plasticizers	
			45 mil	mechanically attached membrane		6	15 years		4		
				fully adhered membrane		6	15 years not recommended, ballast may cause		4	not recommended, ballast may cause	
		0		loose laid membrane	ballast	-	membrane degradation by leaching plasticizers		-	membrane degradation by leaching plasticizers	
		PV	60 mil	attached membrane		7	18 years	7.0	5		5.0
				membrane		7	18 years not recommended, ballast may cause		5	not recommended, ballast may cause	
	plasti		80 mil	membrane mechanically	ballast	-	membrane degradation by leaching plasticizers		-	membrane degradation by leaching plasticizers	
YPE	Thermo		0011	attached membrane fullv adhered		8	20 years		6		
DUS T				nembrane loose laid	ballast	8	20 years not recommended, ballast may cause membrane degradation by leaching		6	not recommended, ballast may cause	
NIMU			45 mil	membrane mechanically			plasticizers		2	plasticizers	
N-BIT				membrane fully adhered		4	10 years		3		
Q		тро		loose laid	ballast		not recommended, ballast may cause membrane degradation by leaching	4.5	-	not recommended, ballast may cause membrane degradation by leaching	3.5
			60 mil	mechanically attached		5	plasticizers 12 years		4	plasticizers	
				membrane fully adhered membrane		5	12 years		4		
				loose laid membrane	ballast	4	10 years		4		
	ic		45 mil	mechanically attached membrane		2	8 years		3		
	stomer	EPDM		fully adhered membrane loose laid	hallaet	2	8 years	3.5	3		3.7
	Elas		60 mil	membrane mechanically attached	Dallast	4	10 years		4		
				membrane fully adhered membrane		4	10 years		4		
			2 alu	hat man applied	flood coat with ballast	8	18 years plus		7		
			з ріу	not, mop applied	cap sheet membrane	9	18 years plus		7		
	BUR	sphalt	4 ply	hot, mop applied	flood coat with ballast lcoating	9 9	20 years plus 20 years plus	9.2	8 8		8.0
	8	¥			cap sheet membrane flood coat with	10	20 years plus		8		
			5 ply	hot, mop applied	ballast Icaoting cap sheet	10	25 years plus		9		
				hot, mop applied	membrane	10	25 years plus		9		
			Single Ply (base sheet plus cap	heat welded, toch applied cap	cap sheet membrane	9	20 years		8		
			sheet	cold, adhesive cap sheet		0	20 10070		0		
				applied	membrane	3	20 years		-		
			Double Ply (base sheet	hot, mop applied base/intermediat e sheets and	cap sheet	9	20 years		8		
		Ч	plus one intermediate ply	heat welded, toch applied cap sheet	membrane	-		9.0	-		8.3
		4	sheet	cold, adhesive	cap sheet	9	20 years		8		
түре				applied	membrane	-					
NOUS			Triple Ply (base sheet plus two	hot, mop applied base/intermediat e sheets and	cap sheet	9	20 years		9		
TUMIN	men		intermediate ply sheet plus cap	heat welded, toch applied cap sheet	membrane	-			-		
B	ed Bitu		hybrid)	cold, adhesive	cap sheet	9	20 years		9		
	-Modifi			hot, mop applied							
	olymer		Single Ply (base sheet plus cap	heat welded, toch applied cap	cap sheet membrane	8	18 years		7		
	Ъ		sheet	cold, adhesive	cap sheet	8	18 years		7		
				applied	membrane						
			Double Ply (base sheet	base/intermedial e sheets and	t cap sheet	9	20 years		8		
		SBS	plus one intermediate ply sheet plus cap	toch applied cap sheet				8.8			8.5
			sheet	cold, adhesive applied	cap sheet membrane	8	20 years		8		
				hot, mop applied							
			Triple Ply (base sheet plus two	base/intermedial e sheets and heat welded,	t cap sheet membrane	9	20 years		9		
			sheet plus cap sheet - BUR	toch applied cap sheet							
			nyond)	cold, adhesive applied	cap sheet membrane	9	20 years		9		

			RANK - Cate	gory	Level 3		
		Expected Life				Warranty	
Deal	T			Deal	T		
Rank	стуре		score	Rank	туре		score
1	Asphalt		9.2	1	SBS		8.5
2	APP		9.0	2	APP		8.3
3	SBS		8.8	3	Asphalt		8.0
4	PVC		7.0	4	PVC		5.0
5	TPO		4.5	5	EPDM		3.7

6 EPDM 3.5 6 TPO 3.5

							Ability to find and have						Malatara of Gurless	
cat 1	cat 2	cat 3	cat 4	cat 5	cat 6		Ability to find problems	1		Ability to fix problems	1		Maintenance of Surface	1
			membrane	membrane attachment	surface	cat 6 level		cat 3 level	cat 6 level		cat 3 level	cat 6 level		cat 3 level
			thickness	method loose laid	characteristic	score	e comment not recommended, ballast may cause	score	score	not recommended, ballast may cause	score	score	not recommended, ballast may cause	score
			45 mil	membrane mechanically	Dallast		plasticizers			plasticizers			plasticizers	
			45 11	attached membrane		8	20 years		8	1.1 multiplier		8	1.1 multiplier	
				fully adhered membrane		8	20 years not recommended, ballast may cause	-	8	1.1 multiplier		8	1.1 multiplier not recommended, ballast may cause	_
				loose laid membrane	ballast	-	membrane degradation by leaching plasticizers		•	membrane degradation by leaching plasticizers		•	membrane degradation by leaching plasticizers	
		PVC	60 mil	mechanically attached membrane		8	20 years	8.0	8	1.1 multiplier	8.0	8	1.1 multiplier	8.0
				fully adhered membrane		8	20 years		8	1.1 multiplier		8	1.1 multiplier	
	Istic			loose laid membrane	ballast	-	not recommended, ballast may cause membrane degradation by leaching plasticizers			not recommended, ballast may cause membrane degradation by leaching plasticizers		-	not recommended, ballast may cause membrane degradation by leaching plasticizers	
	mopla		80 mil	mechanically attached		8	20 years		8	1.1 multiplier		8	1.1 multiplier	
TYPE	Ther			membrane fully adhered		8	20 years		8	1.1 multiplier		8	1.1 multiplier	
SNO				loose laid	ballast		not recommended, ballast may cause membrane degradation by leaching			not recommended, ballast may cause membrane degradation by leaching			not recommended, ballast may cause membrane degradation by leaching	
NIMU			45 mil	mechanically		<u> </u>	plasticizers			plasticizers			plasticizers	
-BITI				attached membrane fully adhered		2	results uncertain at this time		2	results uncertain at this time		2	results uncertain at this time	
Ň		тро		membrane loose laid		2	not recommended, ballast may cause	2.0	2	not recommended, ballast may cause	2.0	2	not recommended, ballast may cause	2.0
				membrane mechanically	ballast		membrane degradation by leaching plasticizers			membrane degradation by leaching plasticizers		•	plasticizers	
			60 mil	attached membrane		2	results uncertain at this time		2	results uncertain at this time		2	results uncertain at this time	
				fully adhered membrane loose laid		2	results uncertain at this time		2	results uncertain at this time		2	results uncertain at this time	-
				membrane mechanically	ballast	6	18 years		6	1.15 multiplier		6	1.15 multiplier	
	ric		45 mil	attached membrane fully adhered		5	15 years		6	1.15 multiplier		6	1.15 multiplier	
	stome	EPDM		membrane loose laid	hallast	6	16 years	5.7	6	1.15 multiplier	6.0	6	1.15 multiplier	6.0
	Ela		60 mil	membrane mechanically	buildot	5	15 years		6	1 15 multiplier		6	1 15 multiplior	
			0011	membrane fully adhered		6	16 years		6	1 15 multiplier		6	1 15 multiplier	
				membrane	flood coat with	9	15 years		10	1.1 multiplier		10	1.1 multiplier	
			3 ply	hot, mop applie	dcoating cap sheet	9			10			10		
		ţ			membrane flood coat with	9 10	20 years		10			10		
	BUR	Asphal	4 ply	hot, mop applie	dcoating cap sheet	10		9.7	10		10.0	10		10.0
			5 ply		membrane flood coat with	10			10			10		-
			5 ply	hot, mop applie	dcaoting cap sheet	10	25 μαρτο		10			10		
				hot, mop applie	membrane	10	25 years		10			10		
			Single Ply (bas	base sheet and heat welded, toch applied ca	cap sheet membrane	5	15 years		4	1.2 multiplier		4	1.2 multiplier	
			sheet plus cap sheet	sheet	þ									
				cold, adhesive applied	cap sheet membrane	5			4			4		
				hot, mop applie	d									
			Double Ply (base sheet	e sheets and heat welded,	cap sheet membrane	6			4			4		
		APP	intermediate pl sheet plus cap	toch applied ca ^y sheet	p			5.8			4.0			4.0
			sheet	cold, adhesive	cap sheet	6			4			4		
түре				applied	membrane									
SN0			Triple Ply (base	hot, mop applie base/intermedia e sheets and	at cap sheet	_								
NIMU	nen		sheet plus two intermediate pl sheet plus cap	heat welded, y toch applied ca	membrane p	7			4			4		
BIT	Bitum		sheet - BUR hybrid)	sneet										
	dified			cold, adhesive applied	cap sheet membrane	6			4			4		
	er-Moo			hot, mop applie base sheet and	cap sheet									
	olyme		Single Ply (bas sheet plus cap	e toch applied ca sheet	membrane	5			5			5		
	۵.		sheet	cold, adhesive	cap sheet	5			5			5		
				applied	membrane	-		-	-			-		-
			Double Ply	hot, mop applie base/intermedia	at can sheet									
		6	(base sheet plus one intermediate pl	heat welded, toch applied ca	membrane P	6			5			5		
		SB	sheet plus cap sheet	'sheet				6.3			5.0			5.0
				cold, adhesive applied	cap sheet membrane	6			5			5		
				hot, mop applie	id at									
			Triple Ply (base sheet plus two intermediate pl	e sheets and heat welded,	cap sheet membrane	7			5			5		
			sheet plus cap sheet - BUR	sheet	p									
			nybrid)	cold, adhesive applied	cap sheet membrane	6	15 years		5	1.2 multiplier		5	1.2 multiplier	
								1						1

				RANK - Cat	egory Level 3			
	Ability to find probler	ns		Ability to	fix problems		Main	tenance of Surface
Rank	сТуре	score	Rank	кТуре	sco	re Ra	nk Type	score
1	Asphalt	9.7	1	Asphalt	10.	0 1	Asphalt	10.0
2	PVC	8.0	2	PVC	8.0	2	PVC	8.0
3	SBS	6.3	3	EPDM	6.0	3	EPDM	6.0
4	APP	5.8	4	SBS	5.0	4	SBS	5.0
5	EPDM	5.7	5	APP	4.0	5	APP	4.0

6 TPO 2.0 6 TPO 2	2.0 6 TPO 2
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										ENVIRONMENTAL	-			
cat 1	cat 2	cat 3	cat 4	cat 5	cat 6		Installation impact	1		Sustainabile material	1		Sustainable characteristic	1
			membrane thickness	membrane attachment method	surface characteristic	cat 6 level score	comment	cat 3 level score	cat 6 leve score	s I e comment	cat 3 level score	cat 6 level	comment	cat 3 level score
			45 mil	loose laid membrane mechanically attached membrane	ballast	- 9	not recommended, ballast may cause membrane degradation by leaching plasticizers no odor		-	not recommended, ballast may cause membrane degradation by leaching plasticizers not sustainable due to toxicity of manufacturing process		- 9	not recommended, ballast may cause membrane degradation by leaching plasticizers light colors offer good light reflectance and reduced heat island	
				fully adhered membrane	kallaat	9	very slight adhesive odor not recommended, ballast may cause		4	not sustainable due to toxicity of manufacturing process not recommended, ballast may cause membrane deproducing by learning		9	light colors offer good light reflectance and reduced heat island not recommended, ballast may cause	
		PVC	60 mil	membrane mechanically attached membrane	Dallast	9	plasticizers no odor	9.0	4	plasticizers not sustainable due to toxicity of manufacturing process	3.4	9	plasticizers heat island reduction, light reflectance high	9.0
	0			fully adhered membrane	hallast	9	very slight adhesive odor not recommended, ballast may cause membrane degradation by leaching		4	not sustainable due to toxicity of manufacturing process not recommended, ballast may cause membrane degradation by leaching		9	heat island reduction, light reflectance high not recommended, ballast may cause membrane degradation by leaching	_
	Thermoplastic		80 mil	membrane mechanically attached membrane fully adhered	builder	9	plasticizers no odor		4	not sustainable due to toxicity of manufacturing process		9	plasticizers heat island reduction, light reflectance high heat island reduction, light reflectance	
JS TYPE				nembrane loose laid membrane	ballast	-	not recommended, ballast may cause membrane degradation by leaching		-	manufacturing process not recommended, ballast may cause membrane degradation by leaching		-	high not recommended, ballast may cause membrane degradation by leaching	
BITUMINO			45 mil	mechanically attached membrane fully adhered		10 9	no odor very slight adhesive odor		10	common selection when sustainable design is primary factor		10	heat island reduction, light reflectance high heat island reduction, light reflectance	
NON		ТРО	60 mil	membrane loose laid membrane mechanically attached membrane	ballast	- 10	not recommended, ballast may cause membrane degradation by leaching plasticizers no odor	9.5	- 10	design is primary factor not recommended, ballast may cause membrane degradation by leaching plasticizers common selection when sustainable design is primary factor	10.0	- 10	ngn not recommended, ballast may cause membrane degradation by leaching plasticizers heat island reduction, light reflectance high	10.0
				fully adhered membrane loose laid	ballast	9	very slight adhesive odor		10 3	common selection when sustainable design is primary factor		10 5	heat island reduction, light reflectance high ballast color will improve the light	
	ic		45 mil	membrane mechanically attached membrane fully adhered membrane		7	slight adhesive odor		3	petroleum based		3 3	most common membrance is black and does not reduce heat island or offer ligh reflectance most common membrance is black and does not reduce heat island or offer ligh	1 1 1
	Elastomer	EPDM		loose laid membrane mechanically	ballast	7	slight adhesive odor	6.3	3	petroleum based	3.0	5	reflectance ballast color will improve the light reflectance	3.7
			60 mil	attached membrane fully adhered membrane		7 5	slight adhesive odor significant adhesive odor		3	petroleum based		3 3	does not reduce heat island or offer ligh reflectance most common membrance is black and does not reduce heat island or offer ligh reflectance	n: I
			3 ply	hot, mop applie	flood coat with ballast dcoating cap sheet membrane	2 3 3	strong asphalt and pitch odor strong asphalt and pitch odor strong asphalt and pitch odor		2 2 2	petroleum based petroleum based petroleum based		2 2 2	ballast color will improve the light reflectance energy intensive, contributes to air pollution energy intensive, contributes to air pollution	
	BUR	Asphalt	4 ply	hot, mop applie	flood coat with ballast dcoating cap sheet membrane	1 2 2	strong asphalt and pitch odor strong asphalt and pitch odor strong asphalt and pitch odor	2.0	2 2 2	petroleum based petroleum based petroleum based	2.0	2 1 1	ballast color will improve the light reflectance energy intensive, contributes to air pollution energy intensive, contributes to air pollution	1.6
			5 ply	hot, mop applie	flood coat with ballast dcoating cap sheet membrane	1 2 2	strong asphalt and pitch odor strong asphalt and pitch odor strong asphalt and pitch odor		2 2 2	petroleum based petroleum based petroleum based		2 1 1	ballast color will improve the light reflectance energy intensive, contributes to air pollution energy intensive, contributes to air pollution	
			Single Ply (base sheet plus cap sheet	hot, mop applie base sheet and heat welded, toch applied cap sheet	c cap sheet membrane	2	strong asphalt odor		2			3	energy intensive, contributes to air pollution	
				cold, adhesive applied	cap sheet membrane	3	strong adhesive odor	-	3			4	less energy intensive than hot mopped, contributes to air pollution	_
		АРР	Double Ply (base sheet plus one intermediate ply sheet plus cap	hot, mop applie base/intermedia e sheets and heat welded, toch applied cap sheet	c at cap sheet membrane p	2	strong asphalt odor	2.3	2		2.2	3	energy intensive, contributes to air pollution	3.2
S TYPE			31000	cold, adhesive applied	cap sheet membrane	3	strong adhesive odor		3			4	less energy intensive, contributes to air pollution	
BITUMINOU	umen		Triple Ply (base sheet plus two intermediate ply sheet plus cap sheet - BUR	hot, mop applie base/intermedia e sheets and heat welded, toch applied cap sheet	c at cap sheet membrane p	1	strong asphalt odor		1			2	energy intensive, contributes to air pollution	
	dified Bit		hybrid)	cold, adhesive applied	cap sheet membrane	3	strong adhesive odor		2			3	less energy intensive, contributes to air pollution	
	Polymer-Mo		Single Ply (base sheet plus cap sheet	hot, mop applie base sheet and heat welded, toch applied cap sheet	c cap sheet membrane p	2	strong asphalt odor		2			3		
				cold, adhesive applied	cap sheet membrane	3	strong adhesive odor	-	2			4		
		SBS	Double Ply (base sheet plus one intermediate ply sheet plus cap sheet	hot, mop applie base/intermedia e sheets and heat welded, toch applied cap sheet	c at cap sheet membrane p	2	strong asphalt odor	2.5	2		1.8	3		3.0
				cold, adhesive applied	cap sheet membrane	3	strong adhesive odor		2			3		
			Triple Ply (base sheet plus two intermediate ply sheet plus cap sheet - BUR	hot, mop applie base/intermedia e sheets and heat welded, toch applied cap sheet	c cap sheet membrane p	2	strong asphalt odor		1			3		
			hybrid)	cold, adhesive applied	cap sheet membrane	3	strong adhesive odor		2			3		

RANK - Category Level 3														
		Installation impact		Sustainabile ma	terial	Sustainable characteristic								
Rank	сТуре	score	Rank	Туре	score	Rank	Туре		score					
1	TPO	9.5	1	TPO	10.0	1	TPO		10.0					
2	PVC	9.0	2	PVC	3.4	2	PVC		9.0					
3	EPDM	6.3	3	EPDM	3.0	3	EPDM		3.7					
4	SBS	2.5	4	APP	2.2	4	APP		3.2					
5	APP	2.3	5	Asphalt	2.0	5	SBS		3.0					
6	Asphalt	2.0	6	SBS	1.8	6	Asphalt		1.6					

				IMPORTANCE FACTOR													
		С	OST				PERFORMANCE			L	IFE		MAINTENANC	=	ENVIRONMENTAL		
		Initial Cost	Life Cycle	e Cost	Historical	Traffic resistance	Puncture resistance	Chemical resistance	Fatigue resistance	Expected Life	Warranty	Ability to find problems	Ability to fix problems	Maintenance of Surface	Installation impact	Sustainabile material	Sustainable characteristic
Hospital Building	detail	3.0	10.0)	6.0	10.0	10.0	6.0	7.0	6.0	9.0	8.0	10.0	6.0	9.0	4.0	4.0
Tiospital Building	average	6.5			7.8						7.5		8.0			5.7	
Ambulatory Surgery Center	detail	4.0	8.0		5.0	8.0	8.0	6.0	6.0	6.0	6.0	8.0	8.0	6.0	7.0	4.0	4.0
Ambulatory burgery benter	average	6.0		6.6			6	3.0		7.3			5.0				
Ambulatory Caro Contor	detail	4.0	8.0		5.0	8.0	7.0	6.0	6.0	6.0	6.0	6.0	8.0	6.0	7.0	4.0	4.0
Ambulatory Gale Center	average	6.0			6.4				6	6.0		6.7		5.0			
Medical Office Building	detail	10.0	1.0		3.0	4.0	4.0	3.0	5.0	2.0	4.0	4.0	5.0	3.0	5.0	2.0	2.0
modical office ballang	average	5.5			3.8				3.0		4.0			3.0			
Nursing School	detail	10.0	1.0		3.0	4.0	4.0	2.0	5.0	2.0	4.0	4.0	5.0	3.0	5.0	2.0	2.0
indiang banadi	average		5.5				3.6				3.0		4.0			3.0	

	÷		
		IMPORTAN	CE BY BUILDING TYPE
	Rank	Category	Sub category
Hospital Building	1	Performance	Traffic Resistance
	2	Performance	Puncture Resistance
	3	Maintenance	Ability to fix problems
	4	Cost	Life Cycle Cost
	5	Life	Warranty
	6	Environmental	Installation impact
	7	Maintenance	Ability to find problems
Ambulatory Surgery Center	1	Maintenance	Ability to fix problems
	2	Performance	Traffic Resistance
	3	Performance	Puncture Resistance
	4	Maintenance	Ability to find problems
	5	Cost	Life Cycle Cost
Ambulatory Care Center	1	Maintenance	Ability to fix problems
	2	Performance	Traffic Resistance
	3	Cost	Life Cycle Cost
-			
Medical Office Building	1	Cost	Initial Cost
Nursing School	1	Cost	Initial Cost

						CC	COST PERFORMANCE							FE	M	AINTENAN	ICE	ENVIRONMENTAL		
			membrane	membrane attachment	surface		Life Cycle		Traffic	Puncture	Chemical	Fatigue	Expected		Ability to find	Ability to fix	Maintenance	Installation	Sustainabile	Sustainable characteristi
			thickness	method	characteristic	Initial Cost	Cost	Historical	resistance	resistance	resistance	resistance	Life	Warranty	problems	problems	of Surface	impact	material	с
				membrane	ballast	-	· ·	· · ·	-	-	-	•		•	· ·	-		· ·	-	-
			45 mil	mechanically attached		8.0	8.0	6.0	5.0	5.0	6.0	5.0	6.0	4.0	8.0	8.0	8.0	9.0	4.0	9.0
				membrane fully adhered		7.0			5.0	5.0		5.0		10					10	
				membrane loose laid		7.0	8.0	6.0	5.0	5.0	6.0	5.0	6.0	4.0	8.0	8.0	8.0	9.0	4.0	9.0
				membrane	ballast	-	· ·	· ·	-	-	-	-		•	-	-		· ·	0.0	-
		PVC	60 mil	mechanically attached		8.0	8.0	6.0	5.0	5.0	6.0	5.0	7.0	5.0	8.0	8.0	8.0	9.0	4.0	9.0
				membrane fullv adhered																
		ļ		membrane		6.0	8.0	6.0	5.0	5.0	6.0	5.0	7.0	5.0	8.0	8.0	8.0	9.0	4.0	9.0
	astic			membrane	ballast	-	· ·	· ·	-	-	-	•	- · ·	•	· ·	-	· ·	· ·	-	-
	ldo		80 mil	mechanically attached		7.0	8.0	6.0	6.0	6.0	6.0	6.0	8.0	6.0	8.0	8.0	8.0	9.0	4.0	9.0
H	nerm			membrane fullv adhered															10	
ΤX	Ē			membrane loose laid		6.0	8.0	6.0	6.0	6.0	6.0	6.0	8.0	6.0	8.0	8.0	8.0	9.0	4.0	9.0
SUC				membrane	ballast	-	· ·	· ·	-	-	-	•		•	· ·	-	· · ·	· ·	-	-
Ň			45 mil	attached		8.0	2.0	2.0	3.0	5.0	5.0	5.0	4.0	3.0	2.0	2.0	2.0	10.0	10.0	10.0
5				membrane fully adhered		6.0	2.0	2.0	3.0	5.0	5.0	5.0	4.0	3.0	2.0	2.0	2.0	0.0	10.0	10.0
N-B		ТРО		membrane loose laid		- 0.0	2.0	2.0	5.0	5.0	5.0	5.0	4.0	5.0	2.0	2.0	2.0	5.0	10.0	10.0
8				membrane	ballast	-	· ·	· ·	-	-	-	•		•	· ·	-	· · ·	· ·	-	-
			60 mil	mechanically attached		7.0	2.0	2.0	3.0	5.0	5.0	5.0	5.0	4.0	2.0	2.0	2.0	10.0	10.0	10.0
				membrane fullv adhered																
				membrane loose laid		6.0	2.0	2.0	3.0	5.0	5.0	5.0	5.0	4.0	2.0	2.0	2.0	9.0	10.0	10.0
				membrane	ballast	10.0	6.0	9.0	3.0	6.0	3.0	6.0	4.0	4.0	6.0	6.0	6.0	7.0	3.0	5.0
			45 mil	mechanically attached		10.0	6.0	8.0	2.0	5.0	2.0	6.0	2.0	3.0	5.0	6.0	6.0	7.0	3.0	3.0
	eric	_		membrane fully adhered		0.0	6.0	80	20	5.0	20	60	20	3.0	6.0	60	60	5.0	3.0	3.0
	tom	PDM		membrane loose laid		9.0	0.0	8.0	2.0	5.0	2.0	0.0	2.0	3.0	0.0	0.0	0.0	5.0	3.0	5.0
	Elas			membrane	ballast	10.0	6.0	9.0	4.0	6.0	3.0	7.0	5.0	4.0	6.0	6.0	6.0	7.0	3.0	5.0
			60 mil	attached		9.0	6.0	8.0	2.0	6.0	2.0	7.0	4.0	4.0	5.0	6.0	6.0	7.0	3.0	3.0
				fully adhered		9.0	6.0	8.0	3.0	6.0	2.0	7.0	4.0	4.0	6.0	6.0	6.0	5.0	3.0	3.0
				membrane	flood coat with	5.0	10.0	10.0	8.0	0.0	6.0	2.0		7.0	0.0	10.0	10.0	2.0	2.0	2.0
			3 ply	hot, mop appli	ballast edcoating	3.0	10.0	10.0	8.0	9.0	6.0	2.0	8.0	7.0	9.0	10.0	10.0	3.0	2.0	2.0
					cap sheet	4.0	10.0	10.0	9.0	9.0	6.0	2.0	9.0	7.0	9.0	10.0	10.0	3.0	2.0	2.0
					flood coat with	4.0	10.0	10.0	8.0	10.0	7.0	2.0	9.0	8.0	10.0	10.0	10.0	1.0	2.0	2.0
	Ľ	phalt	4 ply	hot, mop appli	ballast edcoating	3.0	10.0	10.0	8.0	10.0	7.0	2.0	9.0	8.0	10.0	10.0	10.0	2.0	2.0	1.0
	-	As			cap sheet	3.0	10.0	10.0	9.0	10.0	7.0	2.0	10.0	8.0	10.0	10.0	10.0	2.0	2.0	1.0
					flood coat with	3.0	10.0	10.0	8.0	10.0	7.0	3.0	10.0	9.0	10.0	10.0	10.0	1.0	2.0	2.0
			5 ply	hot, mop appli	edcaoting	2.0	10.0	10.0	8.0	10.0	7.0	3.0	10.0	9.0	10.0	10.0	10.0	2.0	2.0	1.0
					cap sheet membrane	2.0	10.0	10.0	9.0	10.0	7.0	3.0	10.0	9.0	10.0	10.0	10.0	2.0	2.0	1.0
				hot, mop appli	ec															
			Single Ply (bas	base sheet an heat welded,	d cap sheet membrane	3.0	3.0	3.0	9.0	7.0	6.0	9.0	9.0	8.0	5.0	4.0	4.0	2.0	2.0	3.0
			sheet plus cap	sheet	ар															
			Silder	cold. adhesive	cap sheet															
				applied	membrane	2.0	3.0	4.0	9.0	7.0	6.0	9.0	9.0	8.0	5.0	4.0	4.0	3.0	3.0	4.0
				hot, mop applied	ec															
			Double Ply (base sheet plus one intermediate ply sheet plus cap	base/intermediat e sheets and cap sheet		4.0		10.0			40.0				4.0	10				
				heat welded, toch applied c	membrane	2.0	4.0	4.0	10.0	8.0	6.0	10.0	9.0	8.0	6.0	4.0	4.0	2.0	2.0	3.0
		APP		ly sheet	ab															
			sheet	cold adheeive	can sheet															
щ				applied	membrane	2.0	4.0	4.0	10.0	8.0	6.0	10.0	9.0	8.0	6.0	4.0	4.0	3.0	3.0	4.0
ΤX				hat man and																
Snc			Triple Plv (bas	base/intermed	liat															
NIN			sheet plus two intermediate p	heat welded,	cap sneet membrane	2.0	4.0	4.0	10.0	8.0	7.0	10.0	9.0	9.0	7.0	4.0	4.0	1.0	1.0	2.0
1 E	men		sheet plus cap	sheet	ар															
B	Bitu		hybrid)																	
	fied			cold, adhesive applied	 cap sheet membrane 	2.0	4.0	4.0	10.0	8.0	7.0	10.0	9.0	9.0	6.0	4.0	4.0	3.0	2.0	3.0
	lodi			hot, mon appli	ec															
	ier-N			base sheet an	d cap sheet	3.0	4.0	4.0	9.0	6.0	4.0	2.0	8.0	7.0	5.0	5.0	5.0	2.0	2.0	3.0
	lym		Single Ply (bas sheet plus cap	toch applied c	ap membrane	3.0	4.0	4.0	3.0	0.0	4.0	2.0	0.0	1.0	5.0	5.0	5.0	2.0	2.0	5.0
	ď		sheet	SHOOL																
				cold, adhesive applied	cap sheet membrane	2.0	4.0	4.0	9.0	6.0	4.0	2.0	8.0	7.0	5.0	5.0	5.0	3.0	2.0	4.0
				hot, mop appli base/intermed	ec liat															
			(base sheet	e sheets and heat welded	cap sheet membrane	3.0	4.0	4.0	10.0	6.0	4.0	2.0	9.0	8.0	6.0	5.0	5.0	2.0	2.0	3.0
		ŝŝ	plus one intermediate p	toch applied ca	ар															
		SE	sheet plus cap sheet)																
				cold, adhesive	cap sheet	2.0	4.0	4.0	10.0	6.0	4.0	2.0	8.0	8.0	6.0	5.0	5.0	3.0	2.0	3.0
				appilog	memoralite	-														
				hot, mop appli	ec															
			Triple Ply (bas sheet plus two	e sheets and	cap sheet	2.0	4.0	4.0	10.0	6.0	4.0	3.0	9.0	9.0	7.0	5.0	5.0	2.0	1.0	3.0
			intermediate p sheet plus car	ly toch applied c	ap															
			sheet - BUR hybrid)	SHEEL																
				cold, adhesive	cap sheet	2.0	4.0	4.0	10.0	6.0	4.0	3.0	9.0	9.0	6.0	5.0	5.0	3.0	2.0	3.0
				арріва	mentorañe													L i		

		RANK																	
		CC	OST	PERFORMANCE						LIFE			M	AINTENAN	ICE	ENVIRONMENTAL			
	Deals		Life Cycle		Traffic	Puncture	Chemical	Fatigue		Expected			Ability to fine	d Ability to fix	Maintenance	Installation	Sustainabile	characteristi	
P	калк	Initial Cost	Cost	Historical	resistance	resistance	resistance	resistance		Life	Warranty		problems	problems	of Surface	impact	material	с	
	1	EPDM	Asphalt	Asphalt	SBS	Asphalt	Asphalt	APP		Asphalt	SBS		Asphalt	Asphalt	Asphalt	TPO	TPO	TPO	
	2	PVC	PVC	EPDM	APP	APP	APP	EPDM		APP	APP		PVC	PVC	PVC	PVC	PVC	PVC	
	3	TPO	EPDM	PVC	Asphalt	SBS	PVC	PVC		SBS	Asphalt		SBS	EPDM	EPDM	EPDM	EPDM	EPDM	
	4	Asphalt	SBS	SBS	PVC	EPDM	TPO	TPO		PVC	PVC		APP	SBS	SBS	SBS	APP	APP	
	5	SBS	APP	APP	TPO	PVC	SBS	SBS		TPO	EPDM		EPDM	APP	APP	APP	Asphalt	SBS	
	6	APP	TPO	TPO	EPDM	TPO	EPDM	Asphalt		EPDM	TPO		TPO	TPO	TPO	Asphalt	SBS	Asphalt	